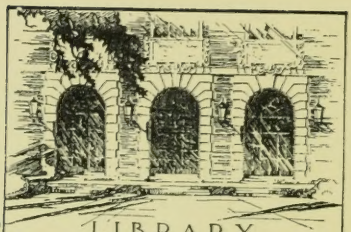
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HOODED ORIOLE.
(Icterus cucullatus).
⅔ Life-size.

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VOL. IV—BIRDS

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Biology

Birds

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CHAPTER XIV

CROWS, JAYS, ETC.

THE Horned Lark, the only representative of the lark family found in America, is closely allied to the skylark of the Old World. Larks are terrestrial birds, their colors harmonizing with the prairies where they are found. Except when nesting they are gregarious.

Crows, Jays, Magpies, and Nutcrackers, all members of the Corvidæ family, are omnivorous feeders, living upon both animal and vegetable foods. Many of them are not migratory, while others are migratory to a limited extent. These birds are of unusual intelligence; many of this family may be taught to speak. The starlings are Old World birds. Those found in this country have been introduced from Europe. In the East they are increasing in number to such an extent as to be a menace; hence all should be interested in their peculiarities.

HORNED OR SHORE LARK*

If the variety of names by which this lark is known is any indication of its popularity, its friends must be indeed numerous. Snow Lark, Snowbird, Prairie Lark, Sky Lark, American Sky Lark, Horned Lark, are a few of them. There is only one American species, so far as known. It breeds in northeastern North America and Greenland, win-

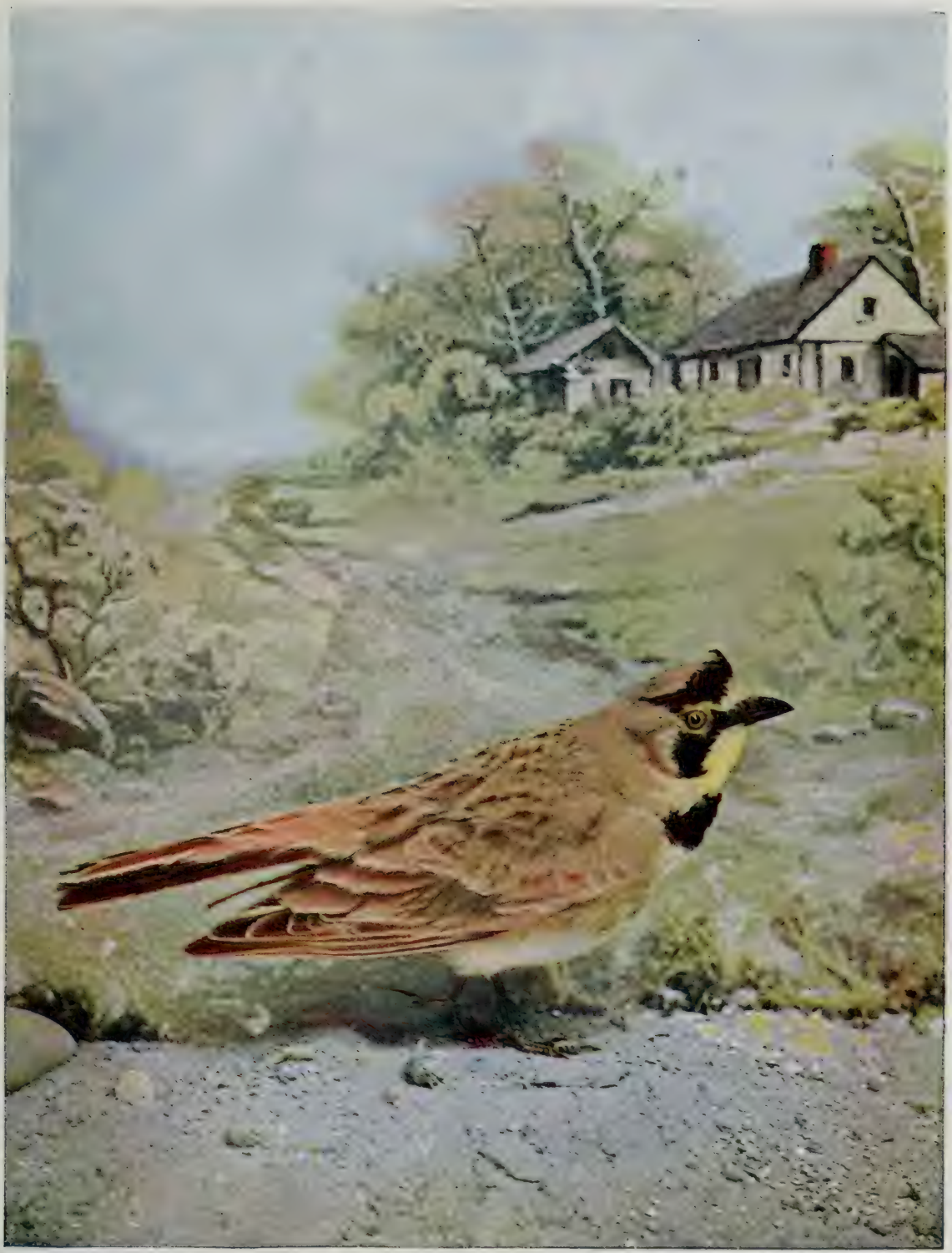
tering in the United States. It also inhabits northern portions of the old world. The common name is derived from the tufts of black feathers over each ear, which the birds have the power of erecting at will, like the so-called horns of some owls.

In the Eastern States, during the winter months, flocks of horned larks, varying in size from a dozen to those of a hundred or more, may be seen frequenting open plains, old fields, dry shores of bays, and the banks of rivers. According to Davie, as there are a number of geographical varieties of the horned lark, the greatest uncertainty has always attended their identification even by experts, and the breeding and winter ranges of the various sub-species do not yet seem to be clearly defined.

Audubon found this species on the low, mossy, and sheltered hills along the dreary coast of Labrador. In the midst of the mosses and lichens that covered the rocks, the bird imbedded its nest, composed of fine grasses, arranged in a circular form and lined with the feathers of grouse and other birds.

Chapman says these larks take wing with a sharp whistled note and seek fresh fields or, hesitating, finally swing about and return to near the spot from which they were flushed. They are sometimes found associated with snowflakes. The pinkish-gray coloring is very beautiful, but in the Middle and Eastern States this bird is rarely seen in his spring garb, says an observer, and his winter plumage lacks the vivid contrasts and prime color.

As a singer the Shore Lark is not to be despised, especially in his nesting haunts. He has a habit of singing as



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HORNED LARK.
½ Life-size.

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MAGPIE.
⅔ Life-size.

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he soars in the air, after the manner of the European Skylark.

MAGPIE

The Magpie is a handsome scamp. Like the Canada jay, he is a born thief and has the same sneaking ways which other members of the crow family possess. Magpies usually confine themselves to rough or mountainous regions, chiefly from New Mexico, Colorado, and Montana westward to the coast. The only other species common to the American continent is the yellow-billed Magpie, inhabiting the coast region of southern California.

Magpies are long-billed birds, probably handsomer than other members of the family except the jays. The flight, like that of the blue jay, is straight, horizontal, and slow. They are very fond of feeding on the carcasses of sheep and cattle. While collecting over the stock ranges in the Yellowstone region of Montana, I always encountered magpies about the herders' camps. These birds are not so noisy as many jays, despite the fact we often hear the expression, "chatter like magpies." The birds are mischievous in captivity, though they are intelligent and may be taught to speak.

The nests are remarkably large for the size of the birds. Like the oven bird and marsh wren, the nests are covered, and the only entrance is through a little hole on the side. These nests, usually placed close to the trunk of a tree, preferably a willow along creek bottoms and in cañons, are made of twigs and hay, lined with any soft substance available, such as wool, hair, and grass.

From examining a dozen nests, I judge the birds lay at intervals of from two to four days, yet incubation begins from time of deposit of first egg. In color the eggs resemble those of the yellow-headed blackbird or loggerhead shrike. The background is pale bluish-white, but the entire surface of the shell is almost completely covered with spots of light brown. These prolific birds lay seven or eight eggs.

BLUE JAY

The jays, like the hummingbirds, are found chiefly in the western and southwestern portions of North America. We have but two jays inhabiting the Great Lakes region. The Canada jay is the other representative. A very handsome jay inhabits the brushy sections of Florida, and is known as the Florida jay. The Blue Jay is common in the United States east of the Great Plains, from Florida to Canada. Throughout the year it remains in most of its range, though in Northern States its numbers are somewhat reduced in winter. During spring and summer the jay is forced to become an industrious hunter for insects for the brood, and it is not so conspicuous as when out roaming the country at will after the household duties are over.

The blue jay partakes of other birds' eggs and the young, and many farmers condemn its love for corn. Three-fourths of the bird's food consists of vegetable matter. It is difficult to decide, on summing up good and bad traits, whether to forgive the faults of this interesting scamp or to condemn and kill it.

The usual call or alarm note is suggestive of the word

AMERICAN BLUE JAY.
♀ Life size

STELLAR'S JAY.
½ Life-size.

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"Jay." The birds are clever imitators, one of their favorite pastimes being to perch near a group of chickens or other birds, and then give a perfect imitation of the call of the red-shouldered hawk, varied perhaps by imitating the red-tailed and the sparrow hawks. The result is a scurry for shelter as the jay flies away triumphantly. It delights in worrying owls and other birds, being unequaled as a tease.

Blue jays are noisy except when nesting, when they exhibit the usual cunning of the crow and jay family. Coniferous trees are used as nesting sites. In early April, before the foliage appears on the deciduous trees, the jay cleverly builds her nest among the large limbs of the tree so as to escape detection.

The nest is of small roots and sticks, lined with rootlets and grass. Four or five dark green eggs are laid. The markings are drab and dark brown. Eggs from different nests exhibit considerable variation. Two broods are often reared in a season.

STELLER'S JAY*

This is an abundant and interesting cousin of the blue jay, and is found along the Pacific coast from northern California northward. It is a very common resident of Oregon, is noisy, bold, and dashing. The nest of this bird is built in firs and other trees and in bushes, ten to twenty feet from the ground. It is bulky and made of large sticks and twigs, generally put together with mud, and lined with fine, dry grasses and hair. The eggs are three to five, pale

green or bluish-green, speckled with olive-brown, with an average size of 1.28 inches by .85 inch. There seems no doubt that many jays have been observed robbing nests of other birds, but thousands have been seen that were not so engaged. It has been shown that animal matter comprises only about twenty-five per cent of the bird's diet.

LONG-CRESTED JAY

The majority of our American jays inhabit mountainous districts in the western portions of the United States. The Long-Crested Jay is common in the Rocky Mountains, ranging through New Mexico and Colorado. Like the blue jay it possesses a crest, which the birds erect when alarmed or agitated.

Long-crested jays are partial to coniferous trees, and in the pine districts of Arizona they are permanent residents. Noisy troops of this species rove about the canyons during the winter months, at times their notes resembling those of the eastern blue jay.

The nests are usually concealed in a mass of twigs at the top of an evergreen tree. Sticks and weed stalks are used in the construction of the nest. Four or five light green eggs marked with brown and purple are laid in May or June.

Steller's jay, of which the long-crested is a sub-species, is confined to the Pacific coast from northern California to Alaska. The blue-fronted jay is another sub-species inhabiting the Sierra Nevada range, south of the region occupied by Steller's jay.

LONG-CRESTED JAY.
(Cyanocitta stelleri macrolopha).
Nearly Life-size.

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ARIZONA JAY.
⅔ Life-size.

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THE ARIZONA GREEN JAY*

The geographical range of the Arizona Jay is in southern New Mexico and Arizona and south into Sonora and Chihuahua, Mexico. It is a common resident throughout the oak belt which generally fringes the foothills of the mountains and ranges well up among the pines. In suitable localities it is very abundant. It is rarely seen at any distance out of the arid plains; but after the breeding season is over, small flocks are sometimes met with among the shrubbery of the few water courses, several miles away from their regular habitat. They are seen in the early spring, evidently on a raid for eggs and the young of smaller birds. On such occasions they are very silent, and their presence is only betrayed by the scoldings they receive from other birds. On their own heath they are as noisy as any of our jays, and apparently far more sociable, a number of pairs frequently nesting close to each other in a small oak grove. They move about in small family parties of from half a dozen to twenty or thirty, being rarely seen alone. They are restless, constantly on the move, prying into this or that, spending a good portion of their time on the ground, now hopping on a low limb, and the next minute down again, twitching their tails almost constantly. Their call notes are harsh and far-reaching, and are somewhat similar to those of the California jay.

Their nests are usually of small sticks, lined with smaller roots and twigs, all rather loosely arranged. They lay four eggs of a bluish color without markings.

CANADA JAY

The Canada Jay, known as the Moose Bird, Whisky Jack, Camp Robber, Grease Bird or Venison Heron, is decidedly a bird of the north or Alpine region; therefore, it is found in the United States only in the northern portion of the northern states, except perhaps in the mountainous regions of Colorado, Wyoming, and Idaho.

Blanchan writes: "The Canada jay looks like an exaggerated chickadee, and both birds are equally fond of bitter cold weather, but here the similarity stops short. Where the chickadee is friendly the jay is impudent and bold; hardly less of a villain than his blue relative when it comes to marauding other birds' nests and destroying their young. With all his vices, however, intemperance cannot be attributed to him; in spite of the name given him by Adirondack lumbermen and guides, 'Whisky John' is a purely innocent corruption of 'Wis-ka-tjon' as the Indians call this bird that haunts their camps and familiarly enters their wigwams. The numerous popular names by which the Canada jays are known are admirably accounted for by Mr. Hardy in a bulletin issued by the Smithsonian Institution:

"They will enter the tents, and often alight on the bow of a canoe, where the paddle at every stroke comes within eighteen inches of them. I know nothing which can be eaten that they will not take, and I had one steal all my candles, pulling them out endwise, one by one, from a piece of birch bark in which they were rolled, and another peck

CANADA JAY.
(Perisores canadensis)

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a large hole in a keg of castile soap. A duck, which I had picked and laid down for a few minutes, had the entire breast eaten out by one or more of these birds. I have seen one alight in the middle of my canoe and peck away at the carcass of a beaver I had skinned. They often spoil deer saddles by pecking into them near the kidneys. They do great damage to the trappers by stealing the bait from traps set for martens and minks and by eating trapped game. They will sit quietly and see you build a log trap and bait it, and then, almost before your back is turned, you hear their hateful ca-ca-ca as they glide down and peer into it. They will work steadily carrying off meat and hiding it. I have thrown out pieces and watched one to see how much he would carry off. He flew across a wide stream, and in a short time looked as bloody as a butcher from carrying huge pieces; but his patience held out longer than mine. I think one would work as long as Mark Twain's California jay did trying to fill a miner's cabin with acorns through a knothole in the roof. They are fond of the berries of the mountain-ash, and, in fact, few things come amiss; I believe they do not possess a single good quality except industry."

Very few zoologists have been able to procure the eggs of this hardy bird, because they are laid in February or March when the snow is deep and travel through the forest is laborious. A few persevering collectors have successfully hunted the nests on snow-shoes. The three or four blue eggs, finely speckled with dark brown, are deposited in a large bulky nest made of stems, fur, feathers and moss, warmly lined and placed among the thickest branches.

RAVEN

The Raven in appearance reminds one of an overgrown crow, though less gregarious, more shy, and more boreal. The raven has been observed near Lake Michigan about northern Illinois and Indiana during severest winters, and may be met with on both the Pacific and Atlantic coasts as well as in the interior.

The sub-species known as the northern raven undoubtedly reaches the coldest climates of any living creature. Arctic explorers in their search for the Pole have observed the raven where all other signs of animate life cease to exist. The plumage is in striking contrast to that of other boreal creatures, such as the ptarmigan, Arctic fox, snowy owl, and polar bear. Blacks being the warmest color, undoubtedly explains this bird's ability to reach such a northerly latitude.

Ravens may be frequently observed walking leisurely along the beaches just above the water line picking up the mollusks and other bits of marine life. Their note is a coarse croak, which seems to issue from the throat and is less musical than the call of the crow. In the northern countries of the Eastern Hemisphere, the raven is regarded by some races as a bird of ill-omen. Ravens are readily taught to speak and are at times kept as pets.

Like the crow and jay, the raven is omniverous, feeding on fish, grain, berries, and other forms of animal and vegetable life. Quite a few ravens breed in the mountains along the Pacific coast of California. The large nests of

RAVEN.
¼ Life-size.

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AMERICAN CROW.
½ Life-size.

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NEST OF THE AMERICAN CROW.
(Corvus americanus).
¼ Life-size.

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sticks are placed on little shelves in almost inaccessible places. They also breed along the rocky coasts of Maine, New Brunswick, Newfoundland, and Nova Scotia.

The raven lays from two to five eggs; in shape and coloration they resemble the eggs of the crow, but like the bird are considerably larger.

CROW

Crows range from northern Mexico to the Arctic regions, where they are then replaced by their larger relative, the northern raven. Crows which breed from northern United States northward usually migrate at the beginning of cold weather; in other localities, they are generally resident. The Florida, fish, and northwestern crows inhabit the extreme portions of North America and are all closely allied to our common crow, the principal differences being in the size of the bills, feet, and wings. A typical crow is entirely black with a metallic luster which is suggestive of purple or steel blue.

The female is slightly smaller than her mate. Crows adapt themselves to almost any diet; in fact, the bill of fare is as varied as are the call notes. Fruits, seeds, grain, insects, crawfish, carrion, eggs, and young birds are all agreeable to a crow's palate; it is doubtful if he destroys enough insects to pay for his depredations.

Crows are intelligent birds, possessing calls so varied that naturalists have termed it a "Crow language." When taken young they may be taught to speak. They are cunning, mischievous, inquisitive, and daring, so their repu-

tation among other birds (also the farmer) is far from enviable. Although few are their friends and numerous their enemies, they have their virtues. Fond of corn and especially sprouting corn, they are often shot for pulling it up, when they are really feeding upon worms. Crows are loyal to each other, and I know of no other bird (aside from the English sparrow) more capable of holding his own against all comers.

Less than seventy years ago the Indian, wolf, prairie chicken, and wild-fowl, together with the crow, were the most prominent features of the Calumet region, in and about where Chicago is now located. With the encroachment of civilization, all have vanished save the crow, which continues to nest in considerable numbers within the city limits of Chicago. From October to April they congregate at dusk by the hundreds about some favorite roosting place, and at early morn they scatter about the country, apparently in search of adventure as well as of food.

The nesting season extends from March to June, according to locality. In the Great Lakes region eggs are deposited in April. Nests are placed from twenty-five to seventy feet above the ground, preferably in the crotch of a forest tree. In Dakota, where timber is scarce, during the latter part of May, 1900, I found them nesting only ten feet above the ground. Recently I have located about Chicago several nests which were only fifteen feet above the ground, while other pairs continue housekeeping at an elevation of sixty feet.

The bulky, substantial nests are constructed of twigs, hay, roots, grass, and sod, with a lining of finer material

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CLARKE'S NUTCRACKER.
(Nucifraga columbiana).
About ½ Life-size.

consisting of bark strips and bunches of hair and wool. Last year's nests are a favorite receptacle for the eggs of the horned and barred owls, which utilize them for breeding purposes in February and March. The four to seven eggs so vary in size, shape, and color, that eggs from the same nest frequently appear to have been laid by different birds.

Read "Silver Spot, the Crow," by Ernest Seton-Thompson.

CLARKE'S NUTCRACKER

Clarke's Nutcracker, or Clarke's Crow, is smaller than our true crows but larger than the jays. It is a shy, cautious bird inhabiting the mountainous regions of the United States and Canada. Comparatively little has been written about the habits of this bird owing to its shyness and retiring disposition. Naturalists find it difficult to visit the breeding grounds while the birds are laying their eggs or rearing their young.

Their food consists almost entirely of pine seeds, which they dexterously extract from cones, hence the range of the birds from year to year varies according to the abundance of pine cones. The female guards her eggs so closely that it is possible to remove the bird from her nest with the hand. Like the Canada jay and magpie, the nutcracker is possessed of great cunning, and is a restless, uneasy fellow.

In March and April when the snow is still deep on the mountain slopes, the nutcracker is constructing a warm nest in the densest part of some coniferous tree. In appearance the nest might readily be mistaken for that of a

squirrel, being a substantial, warm structure in which the birds lay two to four eggs.

STARLING

The original home of this bird is Europe. About two hundred varieties of the Starling occur in various parts of Europe and Asia, but this introduced species is the only true starling to be found in America. The starling was originally given a place on the list of North American birds through record of a specimen from Greenland. Several unsuccessful attempts were made to introduce this bird into the United States before the last importation proved only too successful. About half a hundred birds were liberated in Central Park, New York, in 1890. They are now found resident from New Haven and Boston on the east to Philadelphia on the south and Albany on the north. So prolific are they that they increase in numbers and extend the range almost as rapidly as did the English sparrow when first introduced. It is likely that a war of extermination will soon be declared.

Like our other foreigner, the English sparrow, these birds take refuge about the habitations of man, nesting in the crevices of buildings and hollow trees and lately in branches of trees. Outside of the breeding season they congregate in flocks about parks and orchards. Like our crow and meadowlark, the starling progresses on land by walking instead of hopping or running.

They are birds with handsome, glossy plumage and exhibit to a certain degree some of the intelligence and

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STARLING.
Sturnus vulgaris).
¾ Life-size

cunning possessed by our crows and jays. They are fond of mimicking other birds, and this trait can be cultivated to a remarkable degree by birds in captivity, for like some other members of the intelligent family they may be taught to speak.

In the Old World the starling, like the English sparrow constructs a nest in the trees, under the eaves, in church steeples, and in boxes erected for their accommodation. Outwardly the nests are constructed of twigs, straws, and grasses, lined with finer material. The eggs are about the size of a meadowlark's and are pale blue unspotted.

CHAPTER XV

BLACKBIRDS, ORIOLES, ETC.

Blackbirds, Orioles, Grackles, Cowbirds, and Meadowlarks are members of the Icteridæ family.

While birds of this family are usually tropical, some of our very interesting species belong to this group. Excepting the orioles, they are gregarious after nesting; some flock throughout the year, others during migration. They are found living in all kinds of territory, from marshes to the driest plains. They feed on fruit, seeds, and insects; the males are often adorned with bright plumage. Some of these birds are noted for song, as the meadowlark and bobolink.

BOBOLINK

Most everybody knows the Bobolink, or Skunk Blackbird, so called because of the pattern of the male's plumage. Famous in prose and verse, he is the most popular songster of the starling family.

Bobolinks winter in South America, south of the Amazon. The plumage at that season of the year is light brown, the feathers being lighter on the margins, both sexes being dressed alike. In March the northward flight begins, and, when the birds reach Florida in April, the males have acquired the black and white plumage, and also their bubbling, rollicking song, so in keeping with the

breezy meadows and flowering prairies. About May 1st, flocks of the males arrive in the central United States from New York west across the Mississippi Valley. The females appear about a week later, when the game of hide and seek begins.

Bobolinks are abundant in certain localities from the central United States northward into southern Canada. In many a low pasture or weedy marsh, many swaying weed stalks contain a male bobolink. Suddenly a female, which always wears the same plumage used by both during the fall and winter months, arises from the ground, where she has been deciding upon a suitable place in which to conceal her nest. Immediately from two to six males, singing simultaneously, pursue her in a zigzag course low over the waving vegetation. She drops to the ground, but her pursuers continue in the air, flying in different directions before returning to their respective perches. Frequently while waiting for the object of their affection to present herself, their ecstasy and passion seems uncontrollable, and they launch into the air with outstretched wings, and soar for perhaps thirty seconds in little circles, uttering their bubbling, laughing song; then with upraised wings they gradually drop like a parachute to terra firma.

A bobolink is a true sport while nesting lasts. In July his ardor has cooled, for, before the month expires, molting has set in. He again assumes the dull plumage of the female, and his only note is a metallic pink-pink.

After molting, the birds gather in flocks and resort to rivers and marshes for the wild rice. Here they are slaughtered in great numbers as the popular game bird, the reed

BOBOLINK.
¾ Life-size

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bird or rice bird. They feed upon both insect and vegetable material while nesting, and in the North are highly beneficial, as they consume vast numbers of insects while nesting. Later, in August and September, rice is their principal food, and they are slaughtered in numbers in the rice fields of the South.

No nest is harder to find, considering the abundance of the bird, than that of the bobolink. The nest is placed on the ground, usually in a little hollow flush with the surface. Sometimes the vegetation so cleverly conceals the nest, containing four to seven darkly spotted eggs, that one must carefully part the grass blades in order to see the hidden treasures. Many nests, however, are placed in open situations where the grass is short and scant. When you infer that the male is pouring forth his eloquence to vie with the neighboring bobolinks, he is really cautioning his mate and warning her of your presence; he sweeps about and at the psychological moment inserts into his music the bobolink signal. Madam gently arises from her nest and moves through the grass until she is probably fifty feet away before she ventures to expose herself, or in any way seems to recognize your presence. The nest may be in any direction from where you first discover the female, and neither parent is inclined to aid you in your difficult search. If the eggs are about to hatch or if the nestlings require the mother's warmth, she is loath to regard the warning notes of her mate, and may allow you to almost tread upon her before she flutters reluctantly away.

Other names: Rice Bird, Reed Bird, Rice Bunting, Reed Bunting, Butter Bird, Rice Troopial, Bobolinkum.

COWBIRD

Our common Cowbird is found from the Atlantic west to the Plains; nesting from Texas to New Brunswick and Manitoba, wintering in southern Illinois south. It derives its name from the habit of feeding around cattle. Often several may be seen gathered about the feet of cattle, and even alighting upon the backs of the animals, where they search for ticks and other parasitic insects. They also destroy great numbers of flies and other annoying pests about cattle, and also feed upon worms, grubs, and other insect life which they are apt to obtain from nearby places, as plowed fields. They also consume a small amount of grain; but for their parasitic habits, they would be a most useful bird.

The head and throat of the male during the spring and summer months is cinnamon brown, the other parts of the plumage a glossy black. The female is dull brownish, without any luster to the plumage.

The call note of the cowbird is a sound not unlike the whistle of a woodcock's wing. These polygamous birds move about in groups of three to six, and the females seem to outnumber the males in the ratio of about two to one. The South Atlantic and Gulf States are the home of the dwarf cowbird, a distinct species, but very similar in habits. West of the Mississippi and northward into Canada is the range of the red-eyed cowbird, which, unlike its near relative, lays a light blue unspotted egg.

Like the European cuckoo in one respect only, the

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COW BIRD.
Molothrus ater.

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YELLOW-HEADED BLACK BIRD.
Life-size.

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cowbird, or cow blackbird, deposits her eggs in the nests of other birds, usually some smaller variety, as she builds no nest, but leaves her eggs solely to the care of the foster parents. Nests of the yellow warbler, bobolink, indigo bunting, song sparrow, field sparrow, towhee, yellow-breasted chat, red-winged blackbird, and redstart are frequently used for this purpose. Sometimes the eggs of the cowbird closely resemble those of the owner of the nest, as is true with the eggs of the towhee, chat, and cardinal.

Such birds as the catbird, wood thrush, and prairie horned lark resent such imposture, and destroy or remove the cowbird's eggs. Some of the smaller species, as the yellow warbler, unable to cope with the situation, build over the intruder's eggs, since the cowbird often deposits her eggs before the owner of the nest begins to lay. I have known yellow warblers to repeat this operation three times in one nest in their effort to rid themselves of the unwelcome eggs. If hatched, the intruders monopolize the nest, crowding the nestlings from their own cradle or starving and smothering them.

YELLOW-HEADED BLACKBIRD

Like the dickcissel, the occurrence of the Yellow-headed Blackbird is uncertain and erratic. In many sections from the Mississippi to the Pacific they may be found breeding singly or in small flocks, usually returning annually to the same swamps and marshes. East of the Mississippi their appearance is uncertain and rare. During years of study and observation in northern Illinois, I never discovered this

bird spending the summer with us until 1900, when I observed a small colony nesting in a bayou on the South Side of Chicago, in company with redwings. The latter appeared to be in perfect plumage, but the yellow-heads were a sorry-looking lot, as the bright head, neck, and throat had lost the luster. I finally concluded that the birds had soiled the plumage with soot by frequenting a patch of partially burned rushes.

The notes of the yellow-head are less vivacious than those of our other starlings, except the cowbird. The notes are uttered deep down in the throat and convey the impression that the birds are attempting a sarcastic laugh at the expense of their vivacious associates, the red-winged blackbirds. These birds are also frequently found in company with the cowbird around cattle, excepting at nesting time. In habits and food they are similar to the redwing, making the bird a friend to agriculture. While nesting they feed their young each day worms and grubs by the hundreds.

During the last five years the yellow-heads have colonized in several places near Chicago, and appear to increase in numbers annually. They invariably nest in bulrushes or cattails over water. Externally the nests are composed of strips of bulrushes; sometimes wild rice and other reeds are used in the composition, with a lining of the same material, but finer. Three to five eggs are deposited about the middle of May. The background is pale bluish-white, so thickly covered with specks and spots of light brown that we imagine we have found a nest of brown eggs, when we first stand up in the boat and peer over the edge of the nest.

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RED WINGED BLACKBIRD.
♂ Life-size.

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RED-WINGED BLACKBIRD

The Red-winged Blackbird, or Red-shouldered Blackbird, or Red-winged Starling, inhabits the United States and southern Canada, west to the Plains. Abundant where marshes and lakes are common, of late years several divisions have been made in the geographical distribution of this species, and as a result several sub-species have appeared on our bird list, though the habits and general appearance is the same in all. The males have a scarlet patch on the bend of the wings, and the females, while not possessing any of the bright effects, are also handsome birds, as streaks of black, grayish, and white run lengthwise on the under parts of the female, giving her a pleasing appearance.

The call, "Konk-la-ree," the last syllable having a drawn-out effect, is the song of the redwing, and, though his attempt at singing is really a failure, the notes are well in keeping with the dismal swamps and marshes frequented. His haunts are the retreats of many other birds, but he is the only red-plumaged bird among them. Both sexes produce the mellow "chink" characteristic of blackbirds in general. It may be heard in August and September, when great flocks of the redwings descend upon the grain fields and wild rice. At that season they are frequently served on the bill of fare as reed birds, which name supposedly refers to the bobolink only.

Before the snow disappears from the shady fence corners, and thin ice still forms after sunset, the redwing returns, and we welcome the notes, "konk-la-ree," which

we hear from a distant willow just as the ducks are settling in the bay for their evening repast.

Redwings subsist on seeds, including grain, fruits, and insects. While breeding they destroy great numbers of insects, while their fondness for grain is manifested when they congregate in the late summer months and stop in the cultivated fields on their southward journey.

Farmers' Bulletin No. 54 states that little grain is consumed by these birds, while about 57 per cent of their fare is injurious weed seeds. It eats but little fruit and altogether it is estimated that seven-eighths of its food is injurious weed seeds and insects, indicating that the bird should be protected. In fact they are highly useful to the farmer by the benefit they confer in the destruction of grub worms, caterpillars, and various kinds of larvæ, the secret and deadly enemies of vegetation. It has been estimated that in a single season these birds destroy twelve thousand millions of noxious insects.

Redwings are very jealous of their eggs and young, and attack without hesitancy all hawks, crows, or other marauders with almost as much aggressiveness as does the kingbird.

The nests are placed in low bushes on or near the water. Many times the nests are woven to the upright stalks of cattails or bulrushes. Dry grass, stems, and strips of rushes are used externally, and the inside is lined with fine stems. Some nests have Indian hemp on the outside, giving them the appearance of a large yellow warbler's nest. The four or five eggs are light blue, marked with scrawls and streaks of deep purple and black, chiefly about the large end.

MEADOWLARK.
Sturnella magna).

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MEADOWLARK

All United States and southern Canada is favored with the presence of the Meadowlark, sometimes wrongly called field-lark. Florida, Georgia, and Alabama are inhabited by the Southern meadowlark. From Iowa and Minnesota westward across the continent in the United States and Canada, the Western meadowlark, a more musical variety, ranges. Southwestern Texas, along the Rio Grande, east to Louisiana, is the home of the Mexican or Rio Grande meadowlark. The true meadowlark occurs from New York, New England, and Quebec, west to the States bordering the Mississippi on the west. In portions of Iowa and Missouri, both the Western and Eastern meadowlark may be found breeding together.

Before there is the slightest indication of budding life, except in the redding of the willow stems, this robust little fellow returns from the South to his favorite meadow or pasture. No bird becomes more attached to a given locality than this starling. He weathers many a cold northwestern, eking out an existence on weed seeds and a little grain. Old tussocks of grass or a weather-beaten corn shock offer protection from the frosty nights, which are still due for five or six weeks. The flight is low and he moves in a horizontal line, alternately flapping and sailing much like the bob-white, the field-mark being the two white outer tail feathers. His mode of travel through the air would suggest that his flight was uncertain and that he had not fully developed or mastered the art of aviation.

What can be more cheerful than the whistle of this lark? The song flight is a more pronounced demonstration of affection, and is probably for the benefit of his mate, which may be pursued, or *vice versa.*

I quote the following from F. E. L. Beal's report in Farmers' Bulletin No. 54: "In 285 stomachs examined, animal food (practically all insects) constituted 73 per cent of the contents, and the vegetable matter 27 per cent. As would naturally be supposed, the insects were ground species, such as bugs, beetles, grasshoppers, and caterpillars, together with a few flies, wasps, and spiders. A number of stomachs were taken from birds killed when the ground was covered with snow, but even these contained a large percentage of insects, showing the bird's skill in finding proper food under adverse circumstances." Grasshoppers seem to be the natural food.

More than half of the meadowlark's food consists of harmful insects. Its vegetable food is composed either of obnoxious weeds or waste grain. The strong point in the bird's favor is that, although naturally an insect-eater, it is able to subsist on vegetable food, and consequently is not forced to migrate in cold weather farther than is necessary to find the ground free from snow. It should never be regarded as a game bird, nor is it right that these useful birds be protected in the North only to furnish Southern pot-pies.

So closely do these birds guard the contents of their nests that the farmer's mower frequently passes over the hidden treasures without fatal results to the close-sitting parent. They gather in migrating flocks in fall.

GOLDEN ORIOLE.
Life-size.

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AUDUBONS ORIOLE

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AUDUBON'S ORIOLE*

Audubon's Oriole, the male of which we illustrate, has a very limited range, including the "valley of the Lower Rio Grande in Texas and southward in Mexico to Oaxaca." Their usual song is a prolonged and repeated whistle of extraordinary mellowness and sweetness.

The nest of this oriole is usually placed in mesquite trees, in thickets, and open woods, from six to fourteen feet from the ground. It is a semipensile structure, woven of fine, wire-like grass used while still green and resembles those of the hooded and orchard orioles, which are much better known. The nest is firmly attached, both on the top and sides, to small branches and growing twigs and, for the size of the bird, it appears rather small. One now before me measures three inches in depth inside by about the same in inner diameter. The rim of the nest is somewhat contracted to prevent the eggs from being thrown out during high winds. The inner lining consists of somewhat finer grass tops, which still retain considerable strength and are even now, when perfectly dry, difficult to break.

THE GOLDEN ORIOLE*

We find the Golden Oriole in America only. According to Mr. Nuttall, it is migratory, appearing in considerable numbers in west Florida about the middle of March. It is a good songster, and in a state of captivity imitates various tunes.

This beautiful bird feeds on fruits and insects, and its nest is constructed of blades of grass, wool, hair, fine strings, and various vegetable fibers, which are so curiously interwoven as to confine and sustain each other. The nest is usually suspended from a forked or slender branch, in shape like a deep basin, and generally lined with fine feathers.

"On arriving at their breeding locality, they appear full of life and activity, darting incessantly through the lofty branches of the tallest trees, appearing and vanishing restlessly, flashing at intervals into sight from amidst the tender, waving foliage, and seem like living gems intended to decorate the verdant garments of the fresh-clad forest."

t is said these birds are so attached to their young that the female has been taken and conveyed on her eggs, upon which, with resolute and fatal instinct, she remained faithfully sitting until she expired.

An Indiana gentleman relates the following story:

"When I was a boy, living in the hilly country of southern Indiana, I remember very vividly the nesting of a pair of fine orioles. There stood in the barn yard a large and tall sugar tree with limbs within six or eight feet of the ground.

"At about thirty feet above the ground I discovered evidences of an oriole's nest. A few days later I noticed they had done considerable more work, and that they were using horse hair, wool, and fine strings.

"They appeared to have some knowledge of spinning, as they would take a horse hair and seemingly wrap it with wool before placing it in position on the nest."

THE HOODED ORIOLE*

Only a very limited portion of the United States is beautified by the presence of the bright-colored Hooded Oriole. The North has the richly plumaged Baltimore oriole for a short time each year, but only the far south-eastern part of Texas is enlivened by this graceful, active bird of our illustration, which is "so full of song that the woods are filled with music all the day." Both of these birds seem scarcely to belong to the North, where somber colors seem more in harmony with a severer climate.

The hooded oriole has a very narrow range, reaching from Texas southward through eastern Mexico to Honduras, and during our Northern winters it has the Baltimore as an associate. It is a social bird and frequents the home of man. One writer, relating his experiences with this oriole, says: "They were continually appearing about the thatched roof of our houses and the arbors adjoining for insects; they were more familiar than any of the other orioles about the ranch."

It not only delights man by its song and beautiful coloring, but its presence is also beneficial, for it destroys countless adult insects and their larvæ.

The hooded oriole seldom builds its nest higher than from six to twelve feet above the ground, though in a few instances it has been found as high as thirty feet. Dr. James C. Merrill, in his "Notes on the Ornithology of Texas," says: "The nests of this bird found here are perfectly characteristic, and cannot be confounded with those of any

allied species. They are usually found in one of the two following situations: the first and most frequent is in a bunch of hanging moss, usually at no great height from the ground; when so placed the nests are formed almost entirely by hollowing out and matting the moss, with a few filaments of a dark, hairlike moss as a lining; the second situation is in a bush growing to a height of about six feet, a nearly bare stem, throwing out two or three irregular masses of leaves at the top.

ORCHARD ORIOLE

The Orchard Oriole ranges throughout eastern North America, from the Gulf to Canada, wintering in Central America.

The orchard oriole was until fifteen years ago one of the characteristic birds of the Chicago area, and he appeared the embodiment of this hustling center, as he is apparently always in a hurry. Even his notes, though pleasing, are uttered while he is rapidly moving through the foliage removing caterpillars from the leaves or other forms of insect life from the bark of trees. It, like the Baltimore oriole, is welcome about the home, as the beauty, the song, and the destruction of insect life make it a highly useful bird.

The plumage of the male orchard oriole is darker than that of our other American orioles, and should not be mistaken for the more common Baltimore. With the Baltimore oriole, this is the only species common to eastern North America. Orioles are not forest-loving birds, but

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ORCHARD ORIOLE.
¾ Life-Size.

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BALTIMORE ORIOLE.
½ Life-size.

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seem to prefer orchards, shade trees, or a narrow growth of trees along streams.

Unlike the Baltimore, the orchard oriole uses grass almost exclusively in constructing a nest. The grass consists of long blades obtained while green. After the nest is completed, the grass becomes cured into a beautiful yellowish-green. The shape of the nest and the attachment to the small twigs remind one of the nests built by our vireos, but is somewhat larger and built of different material.

Frequently the orchard oriole has the peculiar habit of constructing two adjacent nests. Four to six eggs are laid; the background is bluish-gray and the markings appear in the form of dots, irregular blotches of dark brown and black. They bear a general resemblance to the eggs of the red-winged blackbird, being without the scrawls or pen lines so frequently seen on the eggs of the Baltimore oriole.

BALTIMORE ORIOLE

The "Fire Bird," "Hang Nest," or "Troupalo," is named in honor of Lord Baltimore, who wore the black and orange robe. In the eastern United States this is the most striking of the starling family. It breeds from the Gulf to Canada, wintering in Mexico and Central America. The orioles live principally on worms and their larvæ. They are among our most valuable birds, and should be encouraged to nest about yards and orchards by putting out nesting material.

The notes of the male oriole are more musical than those of the various blackbirds, and are perhaps slightly sug-

gestive of the whistle of the meadowlark, though less clear and uttered more hastily. The call or alarm note used by both sexes is a low rattle, suggestive of the kingfisher's note.

Their nests are placed at the extremities of drooping branches, preferably those of the elm, maple, and locust, being wonderful examples of bird architecture. The material used in construction varies greatly with the bird's locality, but is largely of uniform material, so as to weave the better. Some nests are constructed almost exclusively of horse hair; others are made of grayish-white plant down known as Indian hemp, or of string and ravelings. The inside of the nest is of finer material, and the whole structure is so fastened to the limbs or branches that it swings in the breeze usually independent of the limbs to which it is attached. The mother bird lays her eggs and hatches in a cradle her young where they may be lulled to sleep by the warm winds of May and June.

The four to six eggs have a white background and are remarkably colored with scrawls or pen lines of dark brown or black, resembling Chinese writing.

Year after year the birds return to the same tree to nest. Roadsides, orchards, or a large shade tree close by the water's edge are favorite sites.

BULLOCK'S ORIOLE

This handsome bird is probably the commonest of the Western orioles. In size and shape it resembles our Eastern variety, the Baltimore oriole. Inhabiting the territory west of the Great Plains to the Pacific Ocean, it is common

BULLOCK'S ORIOLE.
(Icterus bullocki).
¾ Life-size.

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RUSTY BLACKBIRD OR GRACKLE
(Scolecophagus carolinus).
⅔ Life-size.

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in both flat and mountainous sections. While taking a few berries to mix with the insect diet, like the orioles found in eastern North America, it is highly beneficial because of insect diet gleaned from foliage and bark of trees. The call note is rather melancholy, a whistle and warble combined.

The nests, like those of the Baltimore oriole, are pensile, and attached to the smaller branches of limbs at an elevation ranging from ten to thirty feet. The nests are constructed of various kinds of material; usually the most available is utilized. This may be string, plant fiber, horse hair, or grass. The inside of the nest is lined with finer substances. The nests, while securely attached to the limbs and stems, frequently swing independently of the branch to which they are attached.

Four to five eggs are laid usually in May. The background is pale bluish-white and the markings appear in the form of scrawls and pen lines of deep purple and black.

RUSTY BLACKBIRD

The Rusty Blackbird, or Grackle, is about the size of our common red-winged blackbird. These hardy birds frequently spend the winter in southern Illinois and Indiana. The feathers are edged with brown and this appearance has caused many observers to describe this bird as the thrush blackbird. These birds do not congregate in immense droves like some of our starling family, but usually appear in the Great Lakes region semi-annually in small flocks, in spring singing the musical medleys. They are often mistaken for female redwings; and sometimes mistaken for grackles,

though the smaller size and duller plumage readily distinguish them from the grackles.

The bird lives practically upon insects, except during the migrations, when a moderate amount of grain and small wild fruit is consumed. It is therefore useful, and should be protected. Brewer's blackbird, a species similar to the rusty blackbird, is found breeding in the western portions of the United States, from the Rocky Mountains to the Pacific.

Nova Scotia, New Brunswick, Newfoundland, and Labrador are favorite nesting grounds. The nests are composed of stems, grass, and moss mixed with mud and usually placed in coniferous trees similar to the abode of the purple and bronzed grackles. The eggs are light blue, distinctly marked with blotches and spots of dark brown and purple.

BRONZED GRACKLE

The Bronzed Grackle, or the "Crow Blackbird," or one or more of its sub-species, is a familiar object in all the States east of the Rocky Mountains. In size, habits, etc., this bird is so much like the purple grackle that one plate does for both. Throughout the year it is resident as far north as southern Illinois, and in summer extends its range into the British provinces. In the Mississippi Valley it is one of the most abundant birds, preferring to nest in the artificial groves and windbreaks near farms instead of in the natural "timber" which it formerly used. It breeds also in parks and near buildings, often in considerable colonies. In New England, it is only locally abundant, though

BRONZED GRACKLE.
½ Life-size.

frequently seen in migration. After July it becomes very rare, or entirely disappears, owing to the fact that it collects in large flocks and retires to some quiet place where food is abundant and where it can remain undisturbed during the molting season; but in the latter days of August and throughout September it usually reappears in immense flocks before moving southward.

"The crow blackbird is accused of many sins, such as stealing grain and fruit and robbing the nests of other birds, but the farmers do not undertake a war of extermination against it, and for the most part allow it to nest undisturbed about their premises. An examination of 2,346 stomachs shows that nearly one-third of its food consists of insects, of which the greater part are injurious. The bird also eats a few snails, crawfishes, salamanders, small fish, and occasionally a mouse. The stomach contents do not indicate that it robs other birds to any great extent, as remains of birds and birds' eggs amount to less than half of one per cent.

"It is on account of its vegetable food that the grackle is most likely to be accused of doing damage. Grain is eaten during the whole year, and during only a short time in summer is other food attractive enough to induce the bird to alter its diet. The grain taken in the winter and spring months probably consists of waste kernels gathered from the stubble. The stomachs do not indicate that the bird pulls sprouting grain, but the wheat eaten in July and August and the corn eaten in the fall are probably taken from fields of standing grain. The total grain consumed during the year constitutes 45 per cent of the whole food,

but it is safe to say at least half is waste grain, and consequently of no value. Although the crow blackbird eats in their season a few cherries and blackberries, and in the fall some wild fruit, it apparently does little damage in this way.

"Large flocks of grackles no doubt do considerable injury to grain crops; and there seems to be no remedy except the destruction of the birds, which is in itself expensive. During the breeding season, however, the species does much good by eating insects and by feeding them to its young, which are reared almost entirely upon this food. The bird does the greatest amount of good in spring, when it follows the plow in search of large grub-worms, of which it is so fond that it sometimes literally crams its stomach full of them." (Farmers' Bulletin No. 54.)

The bronzed grackle is the Western form of the purple grackle, commonly known as the crow blackbird. These birds are very sociable, and frequently nest in colonies. Until recent years, the bronzed grackle exhibited a decided preference for coniferous trees, and the scarcity of these birds in Chicago was probably due to the fact that few places afforded suitable nesting sites. Outside our cemeteries, evergreen trees were uncommon. Since 1904 the bronzed blackbird has become abundant in northern Illinois, nesting in public parks and shade trees. This bird is not legally protected in many of our States, owing to the great ravages they make upon the grain fields and berry crops. Their notes are hoarse and unmusical; the flight slow and laborious.

The nest is a bulky affair of dried grass, stems, and roots, lined with light grass, and placed usually in a conif-

GREAT-TAILED GRACKLE.
(Quiscalus macrourus.)
½ Life-size.

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erous tree. The three to six eggs are light blue, marked and scrawled with irregular shades of brownish-black.

THE GREAT-TAILED GRACKLE*

The Great-tailed Grackle belongs to a family of birds that is "eminently characteristic of the New World, all the species being peculiar to America." It is the family of the blackbird and oriole, of the bobolink and the meadow-lark. It is called the Icteridæ, from a Greek word, *ikteros,* meaning a yellow bird. The majority of the one hundred and fifty or more species that are grouped in this family make their home in the tropics, where their brilliant colors are emphasized by the ever-green foliage and the bright sunshine.

The family is interesting because the species, though closely related, vary so widely in their habits. They "are found living in ground of every nature, from dry plains and wet marshes to the densest forest growth." Here are classed some of the birds which are among the most beautiful of our songsters. Here, too, are classed some species that never utter a musical sound, and whose voices are harsh and rough. The sexes are usually dissimilar, the female being the smaller and generally much duller in color.

The great-tailed grackle is a native of eastern Texas and the country southward into Central America. The grackles are sometimes called crow blackbirds. There are five species, all found in the United States. The bronzed and the purple grackles are the most generally distributed and best known.

The great-tailed grackle, as well as the other species, usually builds rude and bulky nests in trees, sometimes at quite a height from the ground. It will also nest in shrubs and it is said that it will occasionally select holes in large trees. The males are an iridescent black in color, and the females are brown and much smaller. Both sexes spend most of their time on the ground. Their feet are strong and large, and, when upon the ground, they walk or run and never hop.

EVENING GROSBEAK.

Hesperiphona vespertina vespertina (W. Cooper)

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CHAPTER XVI

FINCHES, SPARROWS, ETC.

THE family *Fringillidæ* includes sparrows, various finches, crossbills, dickcissels, etc. This is the largest family of birds and contains some of our most sociable species. Most birds of the family feed on the ground. The beak is strong, as most birds of the family feed on seeds. Some are migratory, while many of them are resident throughout the year. Many of them are noted songsters. They vary in plumage from the beautiful cardinal to the dull-colored sparrow; the bright-colored grosbeaks and finches are usually arboreal.

EVENING GROSBEAK

The Evening Grosbeak is a rather heavy-set bird with large head and powerful beak. This form occurs from Maine, New Brunswick, and Labrador west to Manitoba and Alaska; south in winter to northern United States. The Western evening grosbeak is a species of lighter coloration, and occurs in the Rocky Mountains and Sierra Nevadas. Grosbeaks winter in Alpine regions bordering on the plains and in Canada south to northern United States into New York, Ohio, and Illinois at irregular intervals from October to May.

Evening grosbeaks are very sociable fellows, often associating with pine finches, crossbills, and waxwings. They

thrive on buds and winter berries. During the coldest days of January these hardy birds may be seen moving in flocks of from, say, six to sixty, from limb to limb, calling to each other in their mild, subdued notes, "chee, chee, chee." By no means shy birds, they are found in our public parks and highways, perfectly unconcerned.

I have a nest and three eggs taken June 11, 1909, on the mountains in Arizona at an altitude of 7,000 feet. The nest was placed 55 feet up in a pine tree and on a limb 20 feet from the trunk. The nest is made of dead pine twigs, lined with fine grass and rootlets.

PINE GROSBEAK

The Pine Grosbeak, like the crossbills and evening grosbeak, is an inhabitant of northerly latitudes, and may be observed in the northern portions of the United States only during the late fall and winter months. As its name would imply, it is a lover of evergreen forests. It inhabits the northern portions of both the Eastern and Western Hemispheres. Ernest E. Thompson says: "Its form resembles that of the robin, but the resemblance ceases when we notice the short, thick beak and forked tail." Like the evening grosbeak, it moves leisurely among the trees; the flight is accompanied by a loud, clear whistle.

These birds become reconciled to cages and make interesting pets. During the mating season their song is extremely sweet and varied. They breed early, while snow is still on the ground. They feed largely on wild berries like those of the juniper, mountain ash, sumac, etc.

PINE GROSBEAK.
(Pinicola enucleator.)
⅓ Life-size.

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PURPLE FINCH.
¼ Life-size.

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The nests are of twigs, rootlets, and finer materials, placed at a rather low elevation in some coniferous tree. The three eggs in my collection were laid by a pair of birds which Mr. O. W. Knight, a Maine bird student, kept in captivity. They are deep greenish-blue, sparingly spotted with dark brown.

PURPLE FINCH

The Purple Finch nests in the mountainous regions of New York, but the favorite summer home of this little fellow is through northern Wisconsin, east across the northern tier of States and well up into Canada. The name in describing the color of this bird is slightly misleading, the plumage being more red than purple. "Females and young males bear a decided resemblance to some sparrows, but the rounded bill, tufts of feathers over the nostrils, and the forked tails are distinguishing characteristics."

It is a clever little songster. Led by a roving disposition, during the winter it wanders over temperate North America, visiting our city parks, orchards, and shade trees, though its fondness for fruit buds and blossoms makes it no favorite of the fruit grower.

The nests are usually placed in coniferous trees; sometimes a fruit tree is selected. Grass, roots, and feathers are used in the outward construction of the nest, lined with long horse hairs.

In appearance, size, and construction it bears a strong resemblance to the chipping sparrow's nest. The eggs, like the nest, are also suggestive of the chipping sparrow, but are larger.

THE HOUSE FINCH*

This active and pretty little bird is an attractive feature of the landscape of the western United States. It is a common bird throughout its range, which extends from Oregon southward into Lower California and western Mexico. Eastward its range extends to Colorado and the western part of Texas. It is one of the best known of the birds of southern California, where it is often called the California finch or linnet. The brightly colored plumage of its head has also given it the name Red-headed Linnet. This bird is better known in many localities by the names Burion and Crimson-fronted Finch.

The House Finch is not particular in the selection of a site for its home, and will build "anywhere, from the limb of any tree to the side of a haystack, or in a tin can on a porch." Neither is it particular in the choice of building materials, using those which are furnished by its environment. Though the nests are usually constructed with coarse grasses or weeds and lined with soft fibers, hair or fine roots, the bird may use straws, strings, small roots, strips of bark fibers, and hair in the outer wall, and feathers for the lining. It has been known to preëmpt the unoccupied nests of other birds, such as those of the oriole, the cliff swallow, and also woodpecker holes.

Its song is lively and varied, and is heard throughout the year wherever the bird is a constant resident. When caged, they are called California linnets, and they seem to thrive in captivity.

HOUSE FINCH.
(Carpodacus mexicanus frontalis)
About $\frac{4}{5}$ Life-size.

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AMERICAN RED CROSSBILL.
(Loxia curvirostra minor.)
½ Life-size.

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Though the house finch feeds on the seeds of the wild mustard and of other wild herbaceous plants, as well as on the seeds of the cottonwood and other trees, it is also very destructive to the seeds, fruits, and tender young plants of gardens. As it enjoys the society of man and seeks his protection, when abundant it is often very destructive in his cultivated grounds, and gains only his enmity.

CROSSBILL

The American Crossbills, or Red Crossbills, are great wanderers. Their appearance in any locality is erratic, and, while we consider them as a winter resident in the United States, we should not be surprised to encounter them during any month of the year. Their range seldom extends beyond the southern boundary of the States bordering the Great Lakes. The males are considerably brighter in color than their mates. The feathers are marked with red only on the tips, and at close range the observer might not feel justified in calling them red crossbills. Their habits remind one of a parrot. In moving about the trees they often progress by means of both feet and bill. It is not an uncommon occurrence to see them grasp a twig in their beak and thus pull themselves along the branch. When cracking seeds or when eating fruit, the morsel is sometimes held in the claw as they eat while perched on one foot.

The formation of the freak beak facilitates the removal of seeds from the cones of the various coniferous trees. As many of these trees do not bear cones some years, the crossbills are of uncertain occurrence. Their movements are

never hurried by frigid weather. A few years ago one of my correspondents discovered a colony of crossbills comprising both varieties, the red and white-winged, nesting in the virgin forests of Nova Scotia. The birds were sitting upon their nests in February, when the temperature was 10 to 20 degrees below zero.

I have a nest and four eggs of each species, sent me from this locality. The nests are of broken twigs, green moss, and hair, matted together and warmly lined with moss and fur. The nests in this colony were placed in coniferous trees at elevations ranging from twenty to sixty feet.

The Western form of the crossbill has been known to nest in the higher altitudes of Montana. Some years ago, while spending the early spring and summer in eastern Michigan, a number of crossbills were wandering about a large grove of pine and spruce. We hoped for an opportunity to study the home life of a pair of these birds, which had begun to nest in a remote corner of the college campus, but a sudden rise in the temperature caused the crossbills to make a hasty departure for the North.

I was playing golf one August afternoon, when I noticed a sparrow-like bird bathing in a pail of water. I was surprised to discover that the unsuspicious visitor was a red crossbill. I could not account for his appearance in Chicago at that time of the year, but the incident is in keeping with the eccentric nature of the species.

"When feeding they have a short, whistled call-note; they take wing in a body, and their undulating flight is accompanied by a sharp clicking or whistled note. Their song is varied and pleasing but not powerful."

WHITE-WINGED CROSSBILL.
(Loxia leucoptera.)
About ¾ Life-size.

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THE WHITE-WINGED CROSSBILL*

The common name Crossbill, or, as the bird is sometimes called, Crossbeak, describes the peculiar structure of the bill, which marks them as perhaps the most peculiar of our song birds. The bill is quite deeply cut at the base and compressed near the tips of the two parts, which are quite abruptly bent, one upward and the other downward, so that the points cross at an angle of about forty-five degrees. This characteristic gives this bird a parrot-like appearance.

Their peculiar bills are especially fitted for obtaining their food, which consists to a great extent of the seeds of cone-bearing trees, such as the pine, the hemlock, and the spruce.

The two sexes vary in color, the body of the male being a dull carmine-red, which is brighter on the rump, and that of the female is brownish, tinged with olive-green and with brownish-yellow on the rump. The young males are similar in color to the females, but pass through a changeable plumage while maturing.

The crossbill usually builds its nest in a cone-bearing tree and does not always choose the most inconspicuous locality. The nest is generally constructed of rather coarse twigs and strips of birch or cedar bark and lichens. This is lined with hair, the softer fibers of bark, fine rootlets, grass, and feathers. The whole nest is saucer-shaped and about four inches in diameter, outside measurement, by one and one-half in depth. Authorities tell us that the eggs are usually three in number. In color they are a pale blue,

nearly spotless at the smaller end, but at the larger end marked with irregular streaks or dots of lavender or reddish-brown. The eggs are small, about eight-tenths of an inch long by nearly six-tenths in diameter.

GRAY-CROWNED ROSY FINCH

By a recent committee of the American Ornithologists' Union this bird was given the name of Gray-crowned Rosy Finch, instead of gray-crowned leucosticte. In the United States and Canada we have several varieties of the leucosticte, but they are chiefly confined to the western portions of the continent. Members of the Alpine regions, like the ouzels and the longspurs, they are social little fellows.

Their choice of territory for breeding purposes is in keeping with those of the evening grosbeak and white-tailed ptarmigan in nesting in the far North or in the highest mountains. The birds spend most of their time upon the ground, collecting their food of seeds and insects.

Little has been written regarding the rosy finch and its near allies, chiefly because their summer range takes them to the more inaccessible mountain regions, where collecting is difficult, unless a small number of naturalists organize an expedition for that purpose.

The nest of the leucosticte, constructed almost entirely of grass, is placed in crevices of the rocks, under boulders, or on little ridges at altitudes above timber line. Like the eggs of swifts, owls, petrels, and other birds which nest in dark places or in crevices, they are white, unspotted.

GRAY-CROWNED LEUCOSTICTE.
(Leucosticte tephrocotis.)
Life-size.

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REDPOLL.
Acanthis linaria).
About Life-size

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REDPOLL

The Redpoll might properly be called the American linnet. In general habits and appearance these birds resemble little sparrows, but they have the distinctive undulating flight possessed by the goldfinch, and a little call note which accompanies each downward swoop. Like the Bohemian waxwings and American crossbill, their summer home is in the fur countries, but occasionally they have been known to appear in the northern portions of New England. During severe winters they may be observed about the Great Lakes region of Illinois and Indiana, about the same time we look for the hardy pine grosbeak or jolly snowflake and the wary raven. Their appearance in the Central States is unquestionably due to the scarcity of food in more northerly latitudes. They are familiar birds, and resort to our gardens and orchards to feed on grass and weed seed. Easily tamed, they make interesting pets.

The eggs of this species found in collections, like those of the snowflake, usually come from Iceland. I have four eggs which were taken from a nest of grass and moss, lined with hair and feathers.

GOLDFINCH

The names Goldfinch and Wild Canary are applied indiscriminately by the casual observer to a score of different birds when some yellow warbler chances in the path of an inexperienced but enthusiastic bird admirer.

In the United States, our true goldfinch, or wild canary, remains with us throughout the year, and is known in various phases of plumage according to the season. The flight and flight note betray these birds after the fall molting, when they have left off the bright colors.

The charming ways of a devoted pair of these hardy creatures should render them easy of identification at all times. Few farm orchards or thistle patches are without a pair of these little birds. The male, with a voice equal in tone and quality to his beautiful plumage of black and yellow, finds a warm place in the heart of the bird-lover, naturalist, and agriculturist. The mating song is especially noticeable, coming so late in the year. These are not the only virtues possessed by the goldfinch, as he is of great economic value, because of the destruction of seeds of the thistle, the dandelion, and other noxious plants.

The female is less vivacious than her mate, but she has that small sweet call note so full of expression. Their voices have always impressed me as having something human about them. Goldfinches are fond of each other's society, and are usually found in flocks except when nesting. Their flight is conducted in a peculiar undulatory manner, as both sexes dart back and forth above the tree tops whose dense foliage shelters many a nest of treasures. Twittering incessantly while on the wing, their life appears one perpetual round of happiness. Their mating song is beautiful, and is striking, as it is heard after most other song birds are silent for the year.

In July or August, when thistle-down is floating in the air, the female usually selects for a nesting site the crotch of

GOLDFINCH.
(Spinus tristis).
⅞ Life-size.

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NEST OF THE AMERICAN GOLDFINCH

¾ Life-size.

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ARKANSAS GOLDFINCH.
(Spinus psaltria).
Life-size.

a fruit or shade tree, often close to dwellings. Indian hemp, vegetable-down, and plant fibers are securely woven and matted together, forming a substantial, broad-brimmed, deeply hollowed nest, into which a bountiful supply of thistle-down is placed. The nest is usually situated within twenty feet of the ground. They often nest on the tops of thistles, from which habit, and because of fondness for seeds and down, they often take the name thistle bird. Three to six faint bluish-white eggs are laid. The period of incubation is two weeks.

The nest of the goldfinch here illustrated was built in an oak shrub, five feet from the ground, and was taken September 1, 1901. At this late date, incubation had only commenced, and, although the timber about the nesting site swarmed with migrants passing southward, Mother Goldfinch expressed no anxiety over the late condition of her household affairs.

THE ARKANSAS GOLDFINCH*

This bright and sprightly bird enlivens the shrubby ravines and weedy places from Oregon southward through the United States, and from the Pacific Coast eastward into Colorado. Throughout its range it is quite common, and nests on the plains and also in the mountains to a distance of nine thousand feet. Abundant in many mountainous regions, it has been given the name Rocky Mountain Goldfinch, and the olive-green color of the plumage of its back has given it the very appropriate name Arkansas Green-backed Goldfinch.

Like the common thistle-bird, it has a social disposition, and feeds with its fellows in flocks of a greater or less number. Not infrequently several individuals will alight on the same plant and immediately begin a diligent search search for their food of seeds. Active and of a seemingly impatient temperament, it seldom remains long in any one locality, yet a garden rich in sunflower blossoms or a field full of blooming thistles furnishes so tempting a larder that a flock may patiently labor therein for some time, gathering an abundance of goldfinch dainties.

Its notes are similar to those of the thistle-birds. "The ordinary note is a plaintive, mellow, whistling call, impossible to describe, and so inflected as to produce a very mournful effect." While pursuing its undulating flight, it utters a sweet song, which is in harmony with the rise and fall of its onward motion, and is indicative of its sweet disposition. Its nest is a dainty structure built of fine bark and other vegetable fibers, fine grasses, and moss, compactly bound together and quite thickly lined with plant down.

PINE SISKIN

The Pine Siskin, or Pine Finch, is with us merely as a winter visitant. It occurs throughout the continent, breeding mostly north of the United States. At first glance this bird suggests one of the sparrow flock, but the siskins are less quarrelsome, more dignified, and partial to budding trees or wheat fields. A captive siskin in the possession of the writer shows great intelligence, and eats freely from the hand. His cage contains a large wheel, in which the bird

PINE SISKIN.
(Spinus pinus).
Life-size.

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SNOWFLAKE.
(Plectrophenax nivalis.)
Life-size.

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revolves with great rapidity, hopping from perch to perch. He enjoys singing in an undertone, apparently only for the benefit of himself.

In the wild state siskins show a fondness for coniferous trees, and often move about in company with the redpolls and purple finches. It is erratic in its movements, like the crossbill.

The eggs of the siskin are pale blue, delicately marked on the larger end with spots of black. These are placed in a nest of stems, hair, rootlets, and moss, matted together and placed in the branch of a tree, often at considerable height from the ground.

SNOWFLAKE

The Snowflake ranges throughout the northern part of the northern hemisphere, breeding in Arctic regions; south in winter to Illinois and Pennsylvania.

The snowflake, or snow bunting, is the true snow bird. It is a sociable creature, visiting the Great Lakes region during our severe weather, in company with longspurs and horned larks. Like the snowy owl, the range extends to the far North. The food consists principally of weed seeds, which they gather about meadows, pastures, and stubble land. Particularly fond of the black bind weed and foxtail grass, they are a most useful bird. In their evolutions they present a pretty sight, and have a pleasant, mellow chirp which is quite impressive when uttered simultaneously by several score of throats.

The little fellow should be readily distinguished from

all other finches, as it is the only white form. It is strictly terrestrial, never alighting in trees, but is sometimes seen on rail fences or on the roofs of outbuildings. Like the horned lark, it walks and does not hop. Snowflakes are of an optimistic disposition, considering the scarcity of suitable food during our severe weather, which scarcity often forces them to visit our homes and barnyards. Nevertheless, during zero weather they may be seen playfully chasing each other over the snowdrifts, as do the bobolink during the balmy days of June. But few American collectors have ventured to the far North, where this little bird breeds. Oologists usually obtain the eggs from Iceland. The eggs, numbering four to seven, are pale greenish-white, lightly blotched with pale brown.

THE LAPLAND LONGSPUR*

The Lapland Longspur is a bird that delights in the fresh and bracing air of the Arctic regions of both continents. There it builds its nest, rears its young, and voices its happiness in song. Loving the cool atmosphere of the North, it migrates southward only when its food supply of grain and other seeds is exhausted or becomes covered with snow. During the winter months they are abundant in the interior of the United States as far south as Kansas, and are not uncommon in Texas.

The Lapland longspurs are highly gregarious. They associate with the horned larks and the snowflakes, though they range somewhat farther south in winter than the latter birds. Not infrequently, when a flock of horned larks is

LAPLAND LONGSPUR.
(Calcarius lapponicus).
Life size.

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FROM COL. F. M. WOODRUFF

SMITH'S LONGSPUR.
(Calcarius pictus).

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passing overhead, the presence of the longspurs is revealed by their quiet but characteristic twitter. Like the snowflake, the hind claw is greatly developed, and it is this characteristic that has given the bird of our illustration its common name.

Mr. Montague Chamberlain, writing of the longspurs in Greenland, speaks of their song, which he describes as "not very long, but has a fine flute-like tone, and though agreeable to the ear, is rather melancholy, as all the notes of this bird are." Continuing, he says: "There is no variation in the song, nor is it repeated with great frequency. It is, however, the finest heard in these wilds."

The nest of this attractive bird is placed on the ground, under tufts of grass or bunches of small willows. It is constructed with moss and fine grasses and lined with grasses, and frequently, also, with feathers. The female is a close sitter and relies on the color of her plumage and the position of her nest for protection. She will sometimes remain on her nest until nearly trodden on.

SMITH'S LONGSPUR

Longspurs have the nail on the hind toe remarkably developed, enabling the birds to scratch in weedy sections for various seeds and insects. Longspurs are found in flocks, except when nesting. They visit the central portions of the United States, often in company with horned larks and snowflakes. They are sociable little fellows, often calling to each other as they move over the snow-covered prairies in immense flocks.

Smith's longspur, or the painted longspur, as it is frequently called, may be found about the southern part of the Great Lakes region from November until April. It is a handsome bird with a black and white head; the rest of the plumage is a rich coppery brown. The female is decidedly paler and inconspicuous. The territory through the Saskatchewan and Mackenzie River regions is the breeding-grounds of the painted longspur. Longspurs have been met with in summer as far north as the Arctic Coast and upper Yukon Valley; in winter they reach as far south as Tennessee and northern Texas.

I have four eggs taken by a missionary in the Mackenzie River region. They are clay colored and clouded with obscure blotches of dark purplish-brown. The nest was in a tussock of grass and composed of moss and fine stems. The nests are sometimes lined with a few large feathers from the wild fowl that breed in the same territory.

THE ENGLISH SPARROW*

The English Sparrow was first introduced into the United States at Brooklyn, New York, in the years 1851 and '52. The trees in our parks were at that time infested with a canker-worm, which wrought them great injury, and to rid the trees of these worms was the mission of the English sparrow.

In his native country this bird, though of a seed-eating family (Finch), was a great insect eater. The few which were brought over performed, at first, the duty required of them; they devoured the worm and stayed near the cities.

ENGLISH SPARROW.
Life-size

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VESPER SPARROW.
½ Life-size.

With the change of climate, however, came a change in their taste for insects. They made their home in the country, as well as in the cities, and became seed and vegetable eaters, devouring the young buds on vines and trees, grass-seed, oats, rye, and other grains.

Their services in insect-killing are still not to be despised. A single pair of these sparrows, under observation an entire day, were seen to convey to their young no less than forty grubs an hour, an average exceeding three thousand in the course of a week. Moreover, even in the autumn he does not confine himself to grain, but feeds on various seeds, such as the dandelion, the sow-thistle, and the groundsel, all of which plants are classed as weeds. It has been known, also, to chase and devour the common white butterfly, whose caterpillars make havoc among the garden plants.

The good he may accomplish in this direction, however, is nullified to the lovers of the beautiful by the war he constantly wages upon our song birds, destroying their young and substituting his unattractive looks and inharmonious chirps for their beautiful plumage and soul-inspiring songs.

VESPER SPARROW

The true form of the Vesper Sparrow, Bay-winged Bunting, or Grass Finch ranges from the plains eastward across the United States to southern Canada. The territory known as the Great Plains northward into Canada is inhabited by a sub-species known as the western vesper sparrow. In the Northwest, through Oregon, Washington,

and portions of the Canadian provinces, another species called the Oregon vesper sparrow occurs.

Like the junco, the vesper sparrow may be recognized by the white outer tail feathers. It spends most of the time on the ground, rising to fence posts and low trees to sing the evening carol. I have often thought that the song of the vesper sparrow is sweeter than that of any other sparrow. It may be heard, long after sunset, coming across the fields when the little screech owl and the whip-poor-will are calling. Pastures, orchards, grain fields, and the right-of-way along railroads are frequented by the grass finch. It feeds almost exclusively on weed seeds, and is, consequently, beneficial to agriculture.

The nest of grass, stems, and rootlets, lined with grass and hair, is placed on the ground. A little hollow is scraped at the base of a thistle, mullein, other weed stalk, or hill of corn. The female sits close and offers little protest when disturbed. The four bluish-white eggs are blotched and spotted with reddish-brown. Two broods are reared in a season.

THE SAVANNA SPARROW*

"The Savanna Sparrow is one of those inconspicuous little birds which hide in the grass or run stealthily along the fences or furrows, having nothing special in their appearance or habits to attract particular attention." These are the words of Dr. Robert Ridgway regarding this retiring but useful little bird. In its habits it very closely resembles its relative, the vesper sparrow. Both frequent meadows and nest on the ground. Not infrequently, when

SAVANNA SPARROW.
(Ammodramus sandwichensis savanna).
Life-size.

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GRASSHOPPER SPARROW.
(Ammodramus savannarum passerinus).
Life-size.

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walking through a meadow, one will be startled by the sudden whirr of wings as one of these sparrows flies away from a spot almost beneath his feet. Its habits are decidedly terrestrial, and it is not infrequently called the ground sparrow.

The Savanna sparrow is an abundant species throughout the eastern portion of North America, breeding in the northern United States and Canada and wintering in the Southern States, Mexico, and the adjacent islands. Near the Atlantic Coast, where it is a common resident, its favorite feeding-grounds are the salt marshes. Here its food consists of small mollusks, as well as of insects and grass seeds.

The nest of the Savanna sparrow is constructed on the ground, in hollows under the protecting shade of a tussock of grass or a clump of weeds. The materials used in building this simple home are usually grasses and fine roots or moss neatly twined together and lined with very fine grass and hair. Not infrequently two broods are raised in a season.

Mr. J. Dwight says: "The song is insignificant — a weak, musical little trill following a grasshopper-like introduction, is of such small volume that it can be heard but a few rods. It usually resembles tsip-tsip-tsip-se-e-e-s'r-r-r."

THE GRASSHOPPER SPARROW*

This little bird of the meadow and hayfield is quite easily identified by the marked yellow color at the shoulders of the wings, the yellowish color of the lesser wing coverts,

the buff-colored breast, and the orange-colored line before the eyes. Its home is on the ground, where its retiring habits lead it to seek the protecting cover of tall grass and other herbage. As it is not often seen except when flushed, or when it rises to the rail of a fence or to the top of a tall spear of grass to utter its peculiar song, it is often considered rare. It is, however, a common bird in many localities of its range, which covers the whole of eastern North America, where it builds, upon the ground, its nest of grass lined with hair and a few feathers. It nests as far north as Massachusetts and Minnesota and winters in the Southern States and the adjacent islands.

This bird was given the name Grasshopper Sparrow from the fancied resemblance of its weak cherup — "a peculiar monotonous song" — to the shrilling produced by the long-horned grasshopper. However, the song often begins and ends with a faint warble. Mr. Chapman says that these notes "may be written pit tuck zee-e-e-e-e-e-e-e-e."

The name of this little bird is not only appropriate because of its song, but also on account of its food. A very large percentage of its food consists of grasshoppers.

In rural districts it is seldom called a sparrow, and is more commonly called grass-bird, ground-bird, or grasshopper-bird. Another appropriate name is yellow-winged sparrow. All these names well portray its habits and characteristics. Its flights are short and rapid, but "on the ground or in the grass it runs like meadow mice to elude the presence and notice of intruders."

Both sexes bear the responsibilities of brooding and their home life seems to be one round of contentment.

LECONTE'S SPARROW.
(Ammodramus leconteii.)
About Life-size.

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"Although the male seeks to win the affections of his lady love by persistently shrilling near her the story of his passion, he generally represses his love trills near the home which his mistress has established."

THE LECONTE'S SPARROW*

The Leconte's Sparrow has an interesting history. It was first discovered and named by Audubon in 1843. Later his account seemed almost a myth, for no more individuals were taken, and even the specimen on which he based his published report of the new species was lost. It was not seen again until Dr. Coues rediscovered it in 1873, obtaining his specimens on the Turtle Mountain, near the border of Dakota.

Of their habits Dr. Coues says: "In their mode of flight the birds resemble wrens; a simile which suggested itself to me at the time was that of a bee returning home laden with pollen; they flew straight and steady enough, but rather feebly, as if heavily freighted for their very short wings."

Its range is quite extensive, for it is found from the great plains eastward through Illinois and Indiana and from Manitoba southward. During the winter months it frequents the states bordering the Gulf of Mexico. This sparrow is often seen in the stubble of grain fields which have become covered with grass and low weeds, to the cover of which it will retreat when frightened. In this respect it resembles the grasshopper sparrow, and, like it, is easily overlooked. Mr. Nelson found it on moist prairies that

were covered with a growth of coarse grass. It is also frequently seen in the swampy prairies of the Mississippi bottom lands.

Mr. Oliver Davie quotes the following description of the bird's habits from an observer who studied their habits in Manitoba, where they nest extensively: "Leconte's sparrows are fairly numerous in Manitoba. Their peculiar note can be heard both day and night in fine weather; the only sound I can compare it to is the note of the grasshopper."

The nests are described as concealed in a thick tuft of grass and are rather deep and cup-shaped. They are constructed of fine grass and fibers.

Though this elegant little sparrow baffled bird-lovers for so many years, it is now known to be abundant in many localities, and it is only because of its peculiar and retiring habits, living, as it does, in grassy places not easily accessible, that it is not more often observed.

LARK SPARROW

The Lark Sparrows are found in the central portions of the United States from Dakota, Nebraska, and Kansas eastward to Michigan and Illinois. They breed from Texas northward into Wisconsin, North Dakota, and casually east to New York and New England. They migrate south in winter to Florida and the Gulf States.

The lark bunting is one of the finest songsters among our native sparrows. Twenty years ago they were a common summer resident about northern Illinois, but of late years they have become rare. The sub-species described as

LARK SPARROW.
About Life-size.

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HARRIS'S SPARROW.
(Zonotrichia querula).
Life-size.

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the western lark sparrow, occurring west of the Mississippi, appears to be more abundant than the eastern form.

Mr. Ridgway describes the song as being composed of a series of chants, each syllable rich, loud, and clear, interspersed with emotional trills.

These birds nest in May and June. The nests are built on the ground, in weedy fields or neglected pastures. One of their favorite nesting spots when the birds were common about Chicago, was the right-of-way between the railroad bed and the fence enclosing the tracks.

Mr. E. R. Ford, one of Chicago's advanced bird students, presented me with a nest of four eggs taken May 31, 1891, along the railroad track in what is now the subdivision of Argyle Park, Chicago. The nest was composed of wood fiber, rootlets, and grass, lined with horse hair. The four eggs have a white background and are beautifully marked with black scrawls and lines, suggestive of the Baltimore oriole or red-winged blackbird.

THE HARRIS'S SPARROW*

Dr. Coues has said of the Harris's Sparrow that it may be regarded as the most characteristic bird of the Missouri region. Its range is mainly confined to the central United States, reaching from Illinois on the east to middle Kansas and the Dakotas on the west. North and south its range extends from the interior of British America to Texas. During its migrations it travels in small flocks, which suddenly appear in patches of shrubbery, where it feeds for a time and soon disappears as quietly and suddenly as it

came. It enjoys the undergrowth and shrubs that are found in ravines and along the banks of streams. An interesting habit, that does not fail to make Harris's sparrow a conspicuous object, is that of perching, when disturbed, on some high branch of a shrub, in order that it may obtain an uninterrupted view of its surroundings and of the intruder.

An observer who has studied the habits of the species as it passes through the state of Iowa during its migrations says: "This beautiful sparrow is one of the commonest of the Fringillidæ that pass through the state in spring and fall, associating at such times with the other sparrows and finches and frequenting similar haunts. Its notes in the fall are a simple loud chirp, not distinguishable from that of the white-throated sparrow, and occasionally a low sweet warble," its music being chuckling and contented. Goss describes its song as composed of "pleasing, plaintive, whistling notes in musical tone like the white-throat, but delivered in a widely different song."

This sparrow is of large size and when dressed in its summer plumage it is a strikingly beautiful bird. The glossy black of its crown and throat are made prominent by the "bright coat of the usual sparrow mixture of colors" that covers the remainder of the body.

But little is known of the breeding habits of this sparrow. Its nests are built in the northern part of its range, probably only in the interior of British America. Its nest is made of bark and grass and located in small shrubs or weed stalks. The eggs, which are of a whitish color, are thickly spotted with brown.

WHITE-CROWNED SPARROW.
(Zonotrichia leucophrys).
Life-size.

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WHITE-CROWNED SPARROW

Probably the handsomest of our American sparrows, they range from the Atlantic to the Rocky Mountains, spending the winter many miles south of their breeding-grounds. The birds rarely nest in the United States, except in Alpine regions of the Sierra Nevadas and the Rocky Mountains. They generally resort to the moist sections of Labrador, Newfoundland, and west across the northern portions of Quebec, Ontario, and Manitoba. Their nests are of grasses, on the ground or in bushes. Four or five pale greenish-blue eggs are laid. They winter throughout the United States and south into Mexico. The bird reminds one of the white-throated sparrow, or peabody bird, but the White-crowned Sparrow has no white on the under parts. It is less common than the white-throated sparrow and moves northward usually in May, sometimes lingering in the Great Lakes region until June 1st.

Ernest E. Thompson describes the song as resembling that of the white-throated, with a peculiarly sad cadence and in a clear, soft whistle that is characteristic of the group. Another peculiarity of this species is its habit of singing some of its sweetest refrains during the darkest hours of night.

The bird is of great economical value, subsisting during its migrations almost exclusively on the seeds of various weeds obtained in the fence corners, along hedges, and about gardens. The young when first hatched are fed upon insects.

THE GOLDEN-CROWNED SPARROW*

It is very disappointing to the lover of the beautiful in nature that the exquisite Golden-crowned Sparrow is content to remain in so small an area as its range covers. One need hardly wonder, however, that it is attracted to that narrow strip of country lying along the Pacific Coast from Alaska to southern California. There this sparrow finds on the foothills and on the sides of the ravines and canyons a luxurious growth of shrubbery unmarred by the hand of man. There, also, unmolested in the quiet solitude of nature, it finds an abundant supply of food.

It is a shy bird during the breeding season, but later on, when with its young and its only care is that of obtaining food, it becomes more fearless and will often visit the vicinity of dwellings. It resembles the white-crowned sparrow of eastern North America, but may be easily distinguished from that bird by its golden crown. During the cooler months it associates with the white-crowned sparrow, though it is much less familiar and not as inclined to visit inhabited localities.

Observers describe the nest of the golden-crowned sparrow as being composed of the "coarse stalks of weeds and lined internally with fine roots." Mr. E. W. Nelson says that "Its breeding-ground in Alaska is in the alder patches along the hillsides, where the various bush-loving species make their homes in the matted thickets, well protected from birds of prey and most other foes by an almost impenetrable wall of gnarled and twisted branches."

GOLDEN-CROWNED SPARROW.
(Zonotrichia coronata).
½ Life-size.

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WHITE-THROATED SPARROW.
(Zonotrichia albicollis).
About Life-size.

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Many observers speak of its song as only an occasional "chirp." During the spring and autumn migrations the golden-crowned warbler passes through the states of Oregon and Washington. Writing of its appearance in those states, Mr. William Rogers Lord says: "Many persons will observe a sparrow, beautiful to the eye and, should the occasional song be heard, charming to the ear."

THE WHITE-THROATED SPARROW*

The White-throated Sparrow is one of the handsomest of the sparrows. It is one of the exquisite parts of nature. Migratory in habits, its range covers all of eastern North America, nesting from Michigan and Massachusetts northward and wintering from the latter state southward to Florida.

Its scientific name is descriptive of the marked color characteristic of its crown and throat. Zonotrichia means hair or crown bands, and albicollis is from the Latin, meaning white-throated. It is sometimes called Peabody bird, especially by the New Englanders, with whom Peabody is an important traditional name, and they hear the birds say in its song, "I-I Pea-body, Pea-body, Pea-body." This rendering of its plaintive song is a caricature, yet the name clings to the bird even in other parts of the country. The reserved manner of its movements would hardly lead one to expect that a beautiful song could flow from its white throat.

The nest, too, is a neat creation of small roots, coarse grass, bark, and moss and lined with a bedding of fine

grass and moss. It is usually placed on the ground in fields or open woods, where it is protected by the taller grasses. Sometimes, however, low bushes or the lower branches of trees are selected. So careful is the white-throat in the constructing of its nest not to disturb the surrounding vegetation, and so neutral is the color of the material used, that one may hunt for a long time without finding it unless he luckily stumbles upon it.

TREE SPARROW

Many cold winter days when the snow lies in drifts along the hedges have I found the little tree sparrow the only evidence of bird life. Of the size of our common chipping sparrow, it is readily distinguishable by a small black spot in the center of the breast.

Tree sparrows breed in the far north, along the ice-bound coast of Labrador and beyond. They are with us in the Great Lakes region from November until late March, a sociable little fellow usually traveling in flocks. They have a faint call note, a mere chirp; but their song, which is often poured forth while the days are short and cold, is a very pleasing little ditty.

Probably no other sparrow is more beneficial. In every waste spot where the sod has been disturbed, unless kept down, rank weeds spring up and often form dense thickets. These fields afford food and shelter for many winter birds, enabling them to withstand the cold and the snow. Visiting one of these growths on a cold January morning, one is surprised at the animation of the busy little tree sparrows

TREE SPARROW.
(Spizella monticola).
About Life-size.

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CHIPPING SPARROW.
About Life-size.

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as they move rapidly about devouring on an average each one-quarter ounce of noxious seeds per day.

The eggs of the tree sparrow are pea-green, spotted and speckled with reddish-brown. Three to five eggs are laid in the warm little nest constructed of grass, rootlets, and hair. The nests are placed in mossy situations on the ground or in a little shrub at a low elevation.

The western tree sparrow, very similar in plumage and habits, is the form occurring from the great plains northward to Great Slave Lake, and even to Alaska.

CHIPPING SPARROW

The Chipping Sparrow ranges throughout eastern North America, breeding from the Gulf to Newfoundland and Great Slave Lake, wintering in the Gulf States and Mexico.

The "chippy" is the dooryard sparrow, or was until the unwelcome English sparrow put in an appearance. The monotonous little trill may be heard about our porches, in the vines, lilac bushes, and hedges. Fond of little coniferous trees, three or four pair often spend the summer about a single farmhouse.

The nests are composed almost entirely of horse hair, with outer covering of rootlets. By some the little fellow is known as the hair bird. These nests are usually placed in a little cluster of branches not to exceed twenty feet above the ground, often as low as four feet. Orchard trees are favorite nesting sites, and the birds also are to be found in the berry patches occupied by the indigo bunting and field

sparrow. Some years ago I had the unusual experience of finding four nests of the chipping sparrow within a radius of 150 yards, all of which were placed on the ground, an unusual occurrence, especially as three of the nests were practically in the shade of orchard trees.

Four blue eggs, dotted at the larger end with black, are laid in May. A second brood is often reared in July.

FIELD SPARROW

The range of the Field Sparrow is eastern North America, breeding from North Carolina to Quebec and Manitoba and wintering from southern Illinois and Virginia southward.

In appearance this bird reminds us of the chipping sparrow, but is slightly smaller. Gardens, brushy pastures, and second-growth timber are favorite resorts of this bird, which is very common east of the plains in temperate North America. Their song, like that of the indigo bunting and dickcissel, is not uttered at any particular time of day, but we are apt to hear the little fellow singing when the sun is shining the hottest. The rather wierd notes are in the form of a prolonged musical trill, though subject to great individual variation.

Though comparatively unsuspicious, the field sparrow is not so familiar about the haunts of man as some other varieties. It prefers a little patch of berry bushes or growth of haw where the grass and weeds are long and thick.

The nests are often placed in tussocks of grass at the base of a bush or among the twigs of a shrub at low eleva-

FIELD SPARROW.
½ Life size

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ROM COL. F. M. WOODRUFF

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SLATE-COLORED JUNCO.
(Junco hyemalis).
Life-size.

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tions. Long fine grass is used in constructing the nest. The lining may consist largely of horse hair. The background of the three or four eggs is pale bluish-green and the markings are in the form of reddish spots, chiefly at the larger end. Two broods are often reared in a season. In the Great Lakes region these birds arrive from the south about the middle of April and depart in October, though their song is not often heard after the middle of July.

SLATE-COLORED JUNCO

The Junco ranges throughout North America, breeding from northern Minnesota and New York northward and along the Alleghany Mountains to Virginia, wintering southward to the Gulf.

This bird is commonly known as junco, or black snowbird. This is the only representative of the large junco family east of the Rocky Mountains. Like the vesper sparrow, the outer tail feathers are white, serving as a convenient field mark. The upper breast is a dark mouse color and the upper parts in the male are slaty gray, usually slightly lighter than the coloring on the breast. The plumage of the female is considerably lighter. The bill and legs are pinkish or flesh color.

Occasionally these sociable little fellows spend the winter in southern Wisconsin and northern Illinois and Indiana. Were it not for our snowfalls, we would undoubtedly have them with us as a winter resident. They feed upon the ground, faintly calling to each other in a low little chirp, occasionally bursting into a sweet song which is a favorite

melody during March and April, when the birds are moving toward their summer quarters.

They nest commonly in northern Michigan, Wisconsin, and Minnesota. In their summer haunts the junco retires to dense forests, building a nest in crevices along little ravines, under the roots of upturned trees, or among fallen logs where the country is almost inaccessible. Their demeanor is quite different from that of the migrating junco which visits our dooryards picking up the bread crumbs or feed about the barnyards.

The nest is composed of hair, rootlets, and stems. Three or four eggs are laid. The background is greenish-blue and the larger half of the egg is marked with red dots, often forming a wreath about the larger half of the shell.

These birds breed abundantly through Vermont, New Hampshire, Maine, New Brunswick, and Nova Scotia.

THE PINK-SIDED JUNCO*

Their sweet disposition and cheerful actions, rather than their song and brilliant colors, make the juncos attractive.

The juncos are birds of the mountain forests and are driven to the lower altitudes and warmer climates by the severe snows of the mountain regions. Except during the nesting season, they are decidedly gregarious birds, and will be seen in flocks varying from a dozen or more to several hundred individuals. Always active, they seem to be constantly moving, either in search of food or in happy play. They chase each other on the ground or in flight, uttering a short note at frequent intervals. "In their homes you find

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PINK-SIDED JUNCO.
(Junco annectens).
Life-size

SONG SPARROW.
$\frac{1}{2}$ Life-size.

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them more interesting than when in flocks, because they are now leading individual lives; but they are still the same trustful, gentle birds, ready to come into camp or to let you examine their nests." During the cooler seasons their food consists of seeds of weeds and grasses and the crumbs found in the dooryards. In the summer time, however, they destroy a large number of adult insects and their larvæ and eggs.

The Pink-sided Junco passes the summer season in the Rocky Mountain region of Idaho and Montana, where it makes a home among the pines. It has been found at an elevation of nearly ten thousand feet. Mr. Davie describes a nest that was found at an elevation of eight thousand feet. He says this "nest was under a shelving stone, in a little hollow dug out by the parents. It was rather large and compactly built, composed of coarse, dry grasses and with an inner lining of fine yellow straw and hair of the mountain sheep."

At the approach of winter these birds retreat before the icy storms of the mountains and the snows that cover the source of their food to the milder climate of Arizona, New Mexico, and northern Mexico.

SONG SPARROW

The range of the Song Sparrow is eastern North America, breeding from northern Illinois north to Hudson Bay, wintering from Illinois and New York to the Gulf.

Ernest E. Thompson says: "The song sparrow's vast range in a dozen varying climates, its readiness to adapt

itself to the different conditions in each of the regions it inhabits, its numerical abundance and steady increase while some of its family are dying out, its freedom from disease and vermin, and its perennial good spirits, evidenced by its never-failing music — all proclaim that it is indeed one of nature's successes.

"Its irrepressible vivacity and good spirits in spite of all circumstances are aptly illustrated by the fact that its song may be heard every month of the year and in all weathers; also by night as well as by day — for nothing is more common in the darkest nights than to hear its sweet chant in self-conscious answer to the hooting of the owl or even the report of a gun.

"It is never seen far from the water. Its alarm note is a simple metallic 'chip' which is very distinctive. But its merry chant — which has won for it the name of 'song sparrow' — is its best-known note. It is a voluble and uninterrupted but short refrain, and is perhaps the sweetest of the familiar voices of the meadow-lands. The song that it occasionally utters while on the wing is of quite a different character, being more prolonged and varied. Though so abundant, it cannot be called a sociable species. Even during the migrations it is never seen in compact flocks."

We should not infer from this bird's name that he is any more of a musician than the other varieties; in fact, he by no means ranks first as a songster in his class.

Probably no other bird has been dissected as much as this species. At last accounts the ornithologists, in compiling their check list of North American birds, decided that this little fellow varied sufficiently in minute feather mark-

ings to justify dividing him into about a dozen and a half different forms. We have, as a result, the song sparrow proper, inhabiting the region east of the Mississippi River to the states bordering the Atlantic; other forms are called the Dakota song sparrow, Samuel's song sparrow, mountain, San Diego, Alameda, rusty, sooty, desert, etc., etc. The difference, however, is not perceptible except when the exact locality is taken into consideration, and it requires a microscopic examination to separate them at last.

There is one species, however, which resembles this form but is entitled to be classed separately. That is the Aleutian song sparrow, a larger and darker-plumaged bird found only on the Aleutian Islands, off the Alaskan coast. Owing to the influence of the Japan current the climate on the islands is comparatively mild and the bird is a resident there the year round. Our song sparrows in the Great Lakes region would probably never migrate were it not for the scarcity of food during the winter months, when the ground is apt to be covered with snow and ice.

The song sparrow is partial to willow growths, and, no matter how early the willow stems brighten and the catkins fill, this species is hopping among their branches just before the sap of the hardy shrub is flowing upward.

Perhaps he is called song sparrow because he sings from more conspicuous places than many of our other sparrows. Perched on a naked twig or on a fence post, often within a stone's throw of our dwelling, he pours forth a short song which is a liquid chirp and trill.

The nests are often placed on the ground along little streams or in damp places. I have also found many nests

in hedges, and one or two among the crevices of decayed wood in an old stump. They seldom nest in trees unless they contain a cluster of low branches enabling the bird to construct her nest within four or five feet of the ground. Grass stems, hay, and horse hair are the principal materials used. The nests are bulky, but well cupped. Both birds assist in nest building. They utter a saucy little chirp when disturbed. The four or five eggs vary greatly in markings. The background may be white, bluish-white, or light green; the spots are red, dark brown, or lilac, often clustered and sometimes wreathed about the larger end.

Three broods are often raised in a season. The first nests are ready for occupancy by the last week in April, another set of eggs are laid about June 1st, and again in August we may expect to find the mother incubating.

This bird may be distinguished from many of our other resident sparrows by the heavily spotted breast and the dark brown feathers above.

THE SWAMP SPARROW*

Though the range of the Swamp Sparrow covers the whole of the northern portion of North America, it nests only in the northern United States and British America. There this timid sparrow seeks a site for his home in the "deep recesses of marshy thickets, environed with a canopy of tangled foliage, whose treacherous quagmire abounds in a luxurious growth of wild grasses." The nest is placed on the ground, and usually in low places, where it is sheltered by a tussock of grass. In its construction grasses, weed

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SWAMP SPARROW.
(Melospiza georgiana).
Life-size.

FOX SPARROW.
(Passerella iliaca Merr.)
⅓ Life-size.

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stems, leaves, and frequently bark fibers are woven together, and it is lined with finer materials of the same kind, often with the addition of some animal hair or vegetable down.

Here it raises its young, finds its food, and sings its simple, sweet song, every note of which indicates a happy disposition. Singing is a part of its nature, and even "a suggestion of the bird's watery home shows itself in the liquid quality of its simple, sweet note, stronger and sweeter than the chippy's, and repeated many times almost like a trill that seems to trickle from the marsh in a little rivulet of song."

The swamp sparrow is the handsomest of the smaller sparrows and its habits are quite like those of the better-known song sparrow—that delightful bird of the parks and dooryards. From the song sparrow the bird of our illustration may be easily distinguished by the even color of the plumage of the breast and the under side of the body, which is entirely free from dark-colored streaks and a dark-brown spot in the middle of the breast.

As the swamp sparrow seldom leaves its home in the marsh to seek food on cultivated grounds, it is, perhaps, of less economic value than many other sparrows. About half of its food consists of insects and the remainder is chiefly seeds.

FOX SPARROW

The Fox Sparrow, the largest of our true sparrows, breeds in Canada and winters from Virginia southward. It is found in the Great Lakes region during March and April, and we have it again in October, but it is less con-

spicuous in the fall. The birds are in full song during their spring migration and their joyous notes are very sweet and liquid. While a few of them stop in Newfoundland, most of them summer in Labrador and beyond to Hudson Bay. In spring the fox sparrow is found around thickets and woodsides, often with juncos; in fall it is usually seen along hedges and in weedy grain fields near shrubbery, scratching like a hen. Brush piles and thickets around swampy places are other favorite haunts while passing through the United States. They are very sociable birds and we regret their preference for the more northerly latitudes, where little opportunity has been afforded the bird-lover to effect a personal acquaintance during the mating and nesting season.

The nests are placed on the ground, securely imbedded in the moss found under the drooping branches of coniferous trees.

TOWHEE

The Towhee, Chewink, or Ground Robin is one of our common birds in the eastern United States, but many casual observers are not acquainted with it. It breeds from the Gulf into southern Canada, and winters from Virginia and Kentucky southward.

The head, throat, and upper parts, as well as spots on wing and tail, of the males are jet black. White patches occur also in the wing and tail feathers. On the sides of the breast, and almost concealed when the wings are folded, is a rich brown patch on either side. The females have the black replaced with dull brown. The male is a handsome bird with dark red eyes.

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TOWHEE.
½ Life-size.

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WHITE-EYED TOWHEE.
(Pipilo erythrophthalmus alleni)
Life-size.

How many times have I been passing through the timber when a low rustle of the leaves gave promise of a grouse or pheasant. I pause, again and again, only to be deceived each time by some industrious towhee. Towhees often jump backward, throwing the leaves in all directions, thus exposing the bare earth, where these useful birds pick up choice morsels in the form of insects, worms, and seeds.

"Chewing" is the call or alarm note and the song is suggestive of "Tow-he-eeeee," being uttered when the male mounts a low limb.

Brush piles, fallen logs, or neglected fence corners are favorite nesting covers for the chewinks. They often arrive from the south late in March, before the snow disappears, and nest building commences late in April. The nests are usually placed on the ground, flush with the surface, well concealed by a fallen branch, fern, or shrub. Sometimes a brush pile or low shrub appeals to them and they place their nests of stems and dry grass in these low elevations. From three to five eggs are laid. The background is pale bluish-white and the marks are in the form of minute specks and dots of reddish-brown. The cow-bird often deposits her eggs in the nest of this bird.

THE WHITE-EYED TOWHEE*

The White-eyed Towhee is a geographical variety of the northern towhee, or chewink. Its range is very limited and includes only the southeastern United States, where it is the most common in Florida. In Georgia and South Carolina it grades into the common towhee, which it closely resem-

bles, though it is somewhat smaller, has less white on the plumage of the wings and tail, and the iris is brownish-yellow or yellowish-white instead of red.

The Florida towhee, as the white-eye is frequently called, spends much of its time on the ground, under the shade of the dwarf palm, where it scratches among the leaves. In general it is a shy and retiring bird and is seldom seen far from its wooded retreats. It is so frequently seen among the saw-palmettos that it is often called the palmetto chewink, or towhee. "This southern towhee does not associate with the northern towhee, which winters in the south. The latter selects haunts of much the same nature as those in which it passes the summer, the former in heavy growths of scrub palmetto."

The call note of the white-eyed towhee sounds much like the syllables jo-ree, with the accentuation on the last syllable. Regarding its song, Mr. J. C. Maynrad says that it does not sing in winter, "but by the first of March the males may be seen on the highest boughs of the small live oaks, pouring forth their song, which is lower and sweeter than that of the red-eye. This outburst of song is the prelude to the breeding season, and soon the birds are busily engaged in constructing their nests."

Mr. Oliver Davie says that the white-eyed towhee has been found breeding as far north as South Carolina. Its nest consists of coarse weeds, pine needles, and grass, and is lined with finer grasses. It seems to nest both in pine trees, at heights from three to fifteen feet above the ground, and in the dense clumps of saw-palmettos. It has also been stated that the nest is sometimes built on the ground.

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ARCTIC TOWHEE.
(Pipilo maculatus arcticus).
⅓ Life-size.

THE ARCTIC TOWHEE*

The Arctic, or Northern, Towhee is a bird of high altitudes and latitudes. Its breeding range is somewhat restricted, including the plains of the Platte, upper Missouri, Yellowstone and Saskatchewan rivers and the regions westward to the eastern slope of the Rocky Mountains. In the winter it passes southward, finally reaching the state of Texas. Throughout its range it frequents streams and shores that are bordered with bushy underbrush. In some localities, as in the valley of the Great Slave Lake, this species is very abundant.

"The Arctic towhee appears in the vicinity of Idaho Springs about the middle of May and in the course of a week or two becomes rather common, though never very abundant. It becomes rare above 8,500 feet, and above 9,000 feet disappears altogether, being most numerous from 7,500 feet down to the plains. In habits and appearance it is quite similar to the eastern towhee, but is much shyer and is easily frightened, when it hides in the bushes until all appearance of danger has passed by. It utters the 'chewink' of the eastern towhee, or a note almost exactly like it, though a little lower and more wiry."

The towhees obtain a large share of their food by scratching among the fallen leaves that lie upon the ground under the underbrush that they frequent. The Arctic towhee will respond to a whistled call, though it is not as inquisitive as the eastern species.

Its nest is placed on the ground, in a slight depression

scratched out by the bird, and is usually under the protecting shadows of shrubs. The nest, the rim of which is flush with the ground, is "strongly built of bark strips, blades of dry grass, and usually lined with yellow straw."

THE CALIFORNIA TOWHEE*

California, with its beautiful scenery and its wonderful variety of interesting forms of vegetable life, is the home of the Towhee of our illustration. Its range is long and narrow, including only that region which lies west of the Cascade and Sierra Nevada mountain ranges, from Oregon southward to the northern portion of Lower California. Like many other birds which are abundant and familiar, the California Towhee is known by several common names. Some of these are: Brown finch or towhee, Crissal towhee bunting, and canyon finch. The last name, though very commonly applied to the bird, seems quite inappropriate, for this towhee is found not only in the canyons, but also on the level country wherever there is a growth of trees or shrubbery. It also frequents the mountain sides to a height of over three thousand feet.

The California towhee is not only abundant, but it is also one of the most characteristic birds of the State whose name it bears. It belongs to a group of the finch family, which contains a number of species with terrestrial or semi-terrestrial habits. This group is represented in the eastern portion of the United States by a single species — the chewink, or common towhee. In the southern and western portions of our country, however, there are several species

CALIFORNIA TOWHEE.
(Pipilo fuscus crissalis).
Life-size.

FROM COL. CHI. ACAD. SCIENCES.

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CARDINAL.
(Cardinalis cardinalis).
⅞ Life-size.

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and the genus reaches its greatest development in Mexico, where there are several kinds not found elsewhere.

Regarding its nesting habits, Dr. J. G. Cooper says that he found a large number that were "built in bushes, from two to four feet from the ground, and containing but three eggs, with the exception of one, which contained four." He also found nests that were built in low trees and in a vine growing over the porch of a house. However, these towhees vary greatly in the selection of a nesting site. Not infrequently the nest is placed on the ground, in hollow tree trunks or in crevices of rocks which are hidden by vegetation.

CARDINAL

The Cardinal, or true "Red Bird," is found in some form or phase of plumage from the Atlantic to the Pacific. It ranges south of the Great Lakes, in the Eastern and Central States. Resident wherever found, he is generally working his way northward, selecting river courses in reaching the regions about northern Illinois and Indiana. The males are handsome birds with dark red plumage; the females, although possessing the handsome crest carried by all cardinals, is much paler in plumage, having ashy-brown feathers similar to those worn by the scarlet tanager, indigo bunting, bobolink, and other female birds whose mates are conspicuously colored.

Cardinals are common inhabitants of the river bottoms about St. Louis and at points along the Illinois River one hundred miles below Chicago. During the winter months often two to six or more pairs will be found frequenting a

small thicket. Despite the fact that they are able to withstand cold weather, very few of them are found as far north as the Great Lakes region.

Their powerful bills enable them to crack the seeds and dissect fruits that other birds are unable to examine. They are birds of great economic as well as of poetic value. A small quantity of grain scattered about the dooryard in winter will readily attract these handsome birds and cause them to become permanent residents of a given locality of their range. The males have during breeding time a dozen distinct notes, and they may be heard whistling twelve months in the year. As one writer says, "The notes of the cardinals are clear and tender — far sweeter than the mellowest notes of fife or clarionet." Red-birds are easily captured and make admirable cage birds. Until our song-bird law went into effect cardinals were handled extensively by various song-bird dealers.

The nests are built in shrubs, vines, and young trees about residences in small towns and villages. The nests are of twigs, bark, grass, and leaves, lined with finer substances of the same. Three or four bluish-white eggs, heavily spotted with dark brown and lavender, are laid. The nests are usually not to exceed ten feet above the ground. The birds enjoy a thicket or dense growth of shrubbery similar to that inhabited by our catbird or brown thrasher. They raise two broods in a season, the male caring for the first brood while the female attends to nesting duties. They sometimes select for nesting sites shrubbery about porticoes, seemingly to avoid the blue jays. They are very restless when disturbed in their nesting.

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ROSE-BREASTED GROSSBEAK.

$\frac{3}{16}$ Life-size.

ROSE-BREASTED GROSBEAK

One of the handsomest of our common North American songsters, the male Rose-breasted Grosbeak may be readily identified by the bright rose-colored blotch on the breast. The same tone may be found on the under side of the wing in both sexes, but this is not clearly seen, and cannot be considered a sure field mark. The birds occur from the Atlantic west to the Great Plains and north into southern Canada. Shrubbery along streams or low saplings are favorite resorts for the grosbeak during the spring and summer months.

The beautiful rose-breasted grosbeak breeds in the northern half of the United States east of the Missouri River, but spends its winters beyond our boundaries. The beauty of the adult male is proverbial; the plumage is pure black and white, with a broad patch of brilliant rose color upon the breast and under each wing.

These birds are of vast importance to the agriculturist, as they destroy Colorado potato bugs, which so few of our birds will eat. When these beetles first swept over the land, and naturalists and farmers were anxious to discover whether there were any enemies to prey upon the pest, the grosbeak was almost the only bird seen to eat them. This favorite bird also destroys many other noxious insects. The vegetable food of the grosbeak consists of buds and blossoms of forest trees, and seeds, but the only damage of which it has been accused is the stealing of green peas. The writer has observed it eating peas, and has examined

the stomachs of several that were killed in the very act. The stomachs contained a few peas, but enough potato beetles, old and young, as well as other harmful insects, to pay for all the peas the birds would be likely to eat in an entire season. It deserves full protection. A small potato field was so badly infested with the Colorado beetles that the vines were completely riddled. The grosbeaks visited the field every day, and finally brought their fledged young. The young birds stood in a row on the topmost rail of the fence and were fed with the beetles which their parents gathered. When a careful inspection was made a few days later, not a beetle could be found; so the birds had saved the potatoes.

"There is an exquisite purity in the joyous carol of the Grosbeak; his song tells of all the gladness of a May morning; I have heard few happier strains of bird music. With those who are deaf to its message of good cheer I can only sympathize." (Chapman.)

The male, though a fine songster, makes himself useful by relieving the female of the duties of incubation, often singing while on the nest. In molting, the feathers come off in patches, leaving the male a most woebegone bird and a silent one. The new coat of the male is a good match for the sparrow-like dress of the female.

The nests are placed at elevations not to exceed fifteen feet. They are loosely made of stiff stems and rootlets, very little soft material is used even in the lining. Three or four eggs are deposited in May or June. The background is deep greenish-blue and the marks are in the form of specks and spots of deep brown, chiefly at the larger end.

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BLACK-HEADED GROSBEAK.
(Habia melanocephala).
Life-size

THE BLACK-HEADED GROSBEAK*

The Black-headed Grosbeak may be considered the Western representative of the rose-breasted species of the eastern United States. Its range extends from British Columbia and Montana southward into Mexico and Lower California. Throughout the larger portion of this district it is quite common. "It appears to shun the pine woods, preferring ravines wooded with deciduous trees and upgrown to shrubbery, as well as the thick willow copses that fringe the mountain streams." On the mountain sides it seldom ventures higher than eight thousand feet.

In its flight, feeding habits, and, in fact, in all its actions, it closely resembles its rose-breasted relative. It does not fly high, and during the breeding season the birds, as a rule, do not associate with each other to any great extent. In the fall, however, they gather in small flocks. Many people say that the rose-breasted grosbeak is the most beautiful singer of all the birds that frequent the Eastern States. The song of the black-headed grosbeak very closely resembles that of the Eastern species, except that it lacks some of the variety which is apparent in the latter's sweet-toned voice. The song of both species is often compared to that of the robin. The comparison must stop, however, with the consideration of the musical annotation of the two songs. The grosbeak's song has "a mellowness about it, and running through it is a rich undertone, which should charm every listener."

The nests are usually built in low deciduous trees or

occasionally in shrubs. They consist of twigs, herbaceous stems, and bark fibers very loosely woven together and lined with fine roots, grass, and hair.

Our illustration is that of the male, whose bearing is always both dignified and attractive. In life, "his body looks graceful as he sits upon his perch, singing his love-song, like a master-bird as well as a master musician."

BLUE GROSBEAK

The Blue Grosbeak is found on the Atlantic Coast in New England westward to the Great Plains. A paler form, known as the Western blue grosbeak, occurs in the Rocky Mountain range, south through New Mexico and Arizona. In the Great Lakes region of Indiana, Illinois, Michigan, and Wisconsin they are of rare occurrence, a shy but beautiful songster. They breed from thirty-eight degrees south into Mexico, wintering south of the United States.

This bird is probably more common in the Southern Atlantic States than in any other place. The favorite food is grain, especially rice; therefore the bird may be looked for where this cereal is cultivated. They have a remarkably strong, awkward-appearing bill, which enables them to crush the hardest seeds.

Neltje Blanchan says: "This bird has the habit of sitting motionless with a vacant stare many minutes at a time. This impresses one with the fact that the bird must be stupid, but they are exceedingly wary at times, and will not permit close inspection.

WESTERN BLUE GROSBEAK.
5/6 Life-size.

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INDIGO BUNTING.
About Life-size

"When seen in the roadside thickets or in tall weeds such as the field sparrow chooses to frequent, it shows little fear of man unless actually approached and threatened. Whether this fearlessness comes from actual confidence or stupidity, is not certain. Whatever the motive for its inactivity, it accomplishes the desired end, for its presence is seldom suspected by the passer-by, and its grassy nest on a tree branch, containing three or four pale bluish-white eggs, is never betrayed by look or sign to the small boy."

This species makes an interesting pet. It is fond of hemp seeds and becomes very much devoted to its keeper, but is apt to become melancholy and refuse food if placed in strange surroundings after being kept for some time as a pet in one household.

The nest is of grass, in bushes or in high weeds. Three or four pale bluish-white eggs are laid.

INDIGO BUNTING

The Indigo Bird of eastern and middle North America is about the size of our goldfinch, and is the only small bird we have with us whose plumage is entirely blue. The female is very plain and her plumage is suggestive of the female bobolink or scarlet tanager.

The Indigo Bunting, with the red-eyed vireo, dickcissel, and field sparrow, comprises the Noonday Quartette. These birds sing during the heat of the day, when other songsters are silent. The indigo bunting sings through August, when most birds are no longer heard. It loves to haunt the highest bough of a shade tree, sing sweetly for

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a few seconds, and then launch into the air, continuing to sing as he descends obliquely to a lower brier or sapling. The males seem to prefer conspicuous places, and seldom alight except on the outermost branches of trees and shrubs. They are seed eaters, also partaking of small berries and insects, so are beneficial to the agriculturists.

They do not arrive from the South until well into May, when the foliage is advanced. Though breeding as far north as Minnesota and Nova Scotia, two broods are reared in a season. The first nest contains eggs about June 1st. Low situations, particularly brier bushes and haw, are favorite nesting sites. The three or four eggs are pale bluish-white. The nest is constructed outwardly of dead leaves and sometimes bits of paper are used. The lining is of fine grass and a little horse hair. The abodes are well hidden in dense places, and the males often retire fifty or one hundred yards from the nesting site, thereby sparing the female any uneasiness because of her mate's conspicuous plumage. The edges of timber tracts, roadsides, and pastures overgrown with shrubbery are usually haunts of the indigo bird, whose company is shared by the towhee and little field sparrow. Sometimes the indigo bird becomes very familiar and decides to nest in the little berry patch just back of the dwelling on a quiet street in our smaller towns; "the female indigo is so suspicious that it is not hard to be vexed with her." More than formerly, they are now seen along the hedges and lanes in the country, sitting on telephone wires.

The cowbird frequently deposits her eggs in the nests of this blue finch.

LAZULI BUNTING.
Passerina amoena.
⅞ Life-size.

THE LAZULI BUNTING*

In Colorado and Arizona the Lazuli Painted Finch, as it is called, is common, while in California it is very abundant, being, in fact, generally distributed throughout the West, and along the Pacific Coast it is found as far north as Puget Sound, during the summer. Davie says it replaces the indigo bunting from the Plains to the Pacific, being found in all suitable localities. The nest is usually built in a bush or in the lower limbs of trees, a few feet from the ground. Fine strips of bark, small twigs, grasses, and hair are used in preparing it for the four tiny, light bluish-green eggs, which readily fade when exposed to light. The eggs so closely resemble those of the bluebird as not to be distinguishable with certainty. The nest is an inartistic one for a bird of gay plumage.

From Florence A. Merriam's charming book, "A-Birding on a Bronco," we select a description of the pretty manners of this attractive bird:

"While waiting for the woodpeckers, one day, I saw a small brownish bird flying busily back and forth to some green weeds. She was joined by her mate, a handsome blue Lazuli Bunting, even more beautiful than our lovely indigo, and he flew beside her, full of life and joy. He lit on the side of a cockle stem, and on the instant caught sight of me. Alas! he seemed suddenly turned to stone. He held onto that stalk as if his little legs had been bars of iron and I a devouring monster. When he had collected his wits enough to fly off, instead of the careless, gay flight

with which he had come out through the open air, he timidly kept low within the cockle field, making a circuitous way through the high stalks."

PAINTED BUNTING OR NONPAREIL

The Painted Bunting, Nonpareil, or Mexican Canary occurs in the Southern States from Florida and Carolina westward to the eastern portions of Texas, usually wintering in the tropics. A few reach the Ohio Valley in southern Illinois and Indiana. In the South they are favorite cage birds, and readily become reconciled to small quarters. Like the indigo bunting, the male is a strikingly colored bird, but the plumage of the female is plain olive green. One variety spends the winter in Florida, but does not seek a more northerly climate until about May.

In their winter haunts they are shy and retiring, remaining in dense shrubbery where the country is not under cultivation. Often while singing the males remain concealed among the foliage, and are difficult to observe as is our yellow-breasted chat. Their song may be favorably compared with that of the indigo bunting.

The birds live chiefly upon seeds and berries. Until the young leave the nest, they are fed upon insects and their larvæ. The nests are rather loosely constructed of leaves and stems of grass and are lined with the same material. Low bushes and young trees are the favorite nesting sites, although the birds are sometimes found breeding in the high timber, several nesting at times in a single tree.

Four eggs are laid in May and a second brood is fre-

PAINTED BUNTING.
(Passerina ciris).
Nearly Life-size.

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150

DICKCISSEL.
(Spiza Americana)
¾ Life-size.

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quently reared in July. The eggs are pale bluish-white, quite thickly speckled with reddish-brown.

DICKCISSEL

The Dickcissel, or Black-throated Bunting, is at times of erratic occurrence. They breed in Mississippi Valley from Texas to Minnesota, wintering in Central and South America. Some years they are abundant in certain localities in northern Illinois, and perhaps the next year few are seen. The male in appearance might remind one of our common cock sparrow with his jet throat. A closer inspection will reveal that the throat of the dickcissel is bordered with light yellow. The song of the male is "Dickcissel-cissel," oft repeated, by no means musical, and with a monotonous repetition continued for hours at a time. During the hottest days of July and August, four to eight birds may be in voice at the same time. These field birds call from a fence post, wheat stalk, little tree, or telephone wire.

The dickcissel feeds upon crickets, bugs, weed seeds, and sometimes wild fruits, such as strawberries.

The female is a very plain and rather shy bird. The first nests are usually placed on the ground or a few inches above the earth, in a tussock of grass. The four or five eggs, laid in early May, are plain light blue. Late in July or early August the dickcissel raises a second brood, and this nest is usually placed in a low bush or shrub. Stems, coarse grass, and horse hair enter into the composition of the nest. Plant fibers such as Indian hemp are frequently used externally, giving the nest an artistic appearance.